JANUARY, 1965

AIRFIX magazine

FOR PLASTIC MODELLERS

MONTHLY 1'6

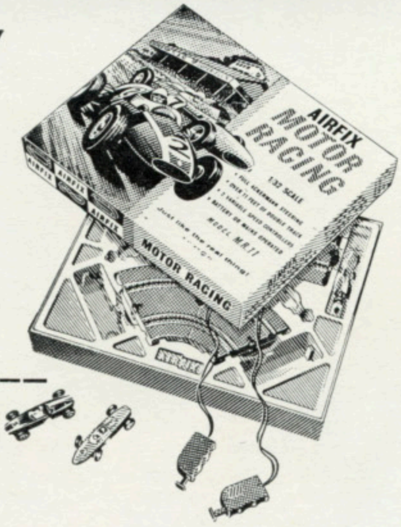
IN THIS ISSUE

New Revenge, Wildcat and fire engine kits

Motorising the Airfix 'Evening Star' loco

AIRFIX MOTOR RACING

Just like the real thing!



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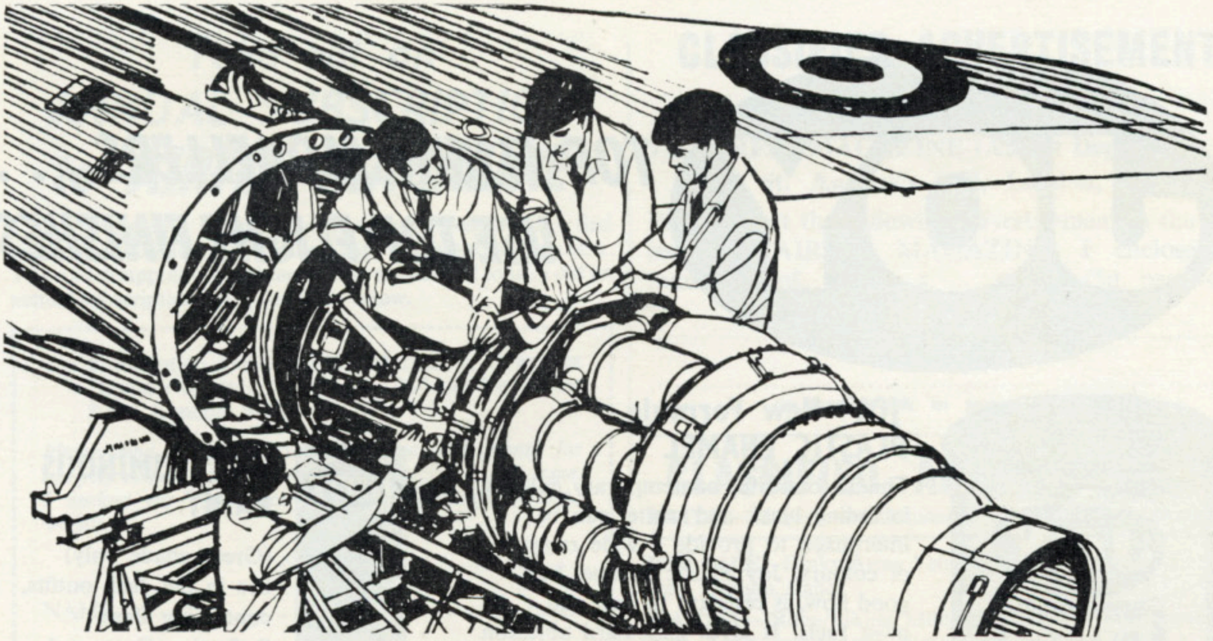

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AIRFIX magazine
FOR PLASTIC MODELLERS

Volume 6, Number 5 **January, 1965**

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COVER PICTURE

The tailplane of one of BEA's fleet of Hawker-Siddeley Trident jetliners dwarfs a trio of Rootes' rear-engined Hillman Imps. Also rear-engined, the Trident has three jets clustered round the tail, and a fuel capacity of 4,940 gallons. An equivalent fill-up with petrol would be enough to keep any one of these Imps going for something like 200,000 miles!

(Illustration by courtesy of 'Modern Motoring and Travel')

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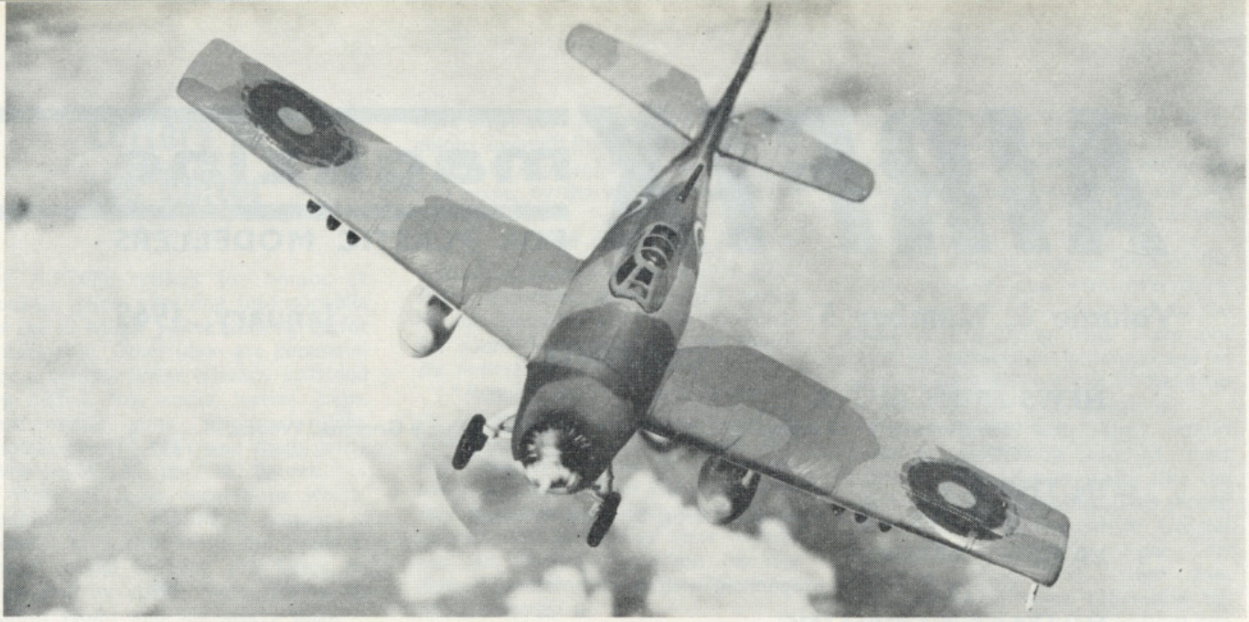


Selling for 2s, the latest Airfix 1:72 scale aircraft construction kit features the Grumman Wildcat VI.

Revenge, Wildcat fighter and Dennis fire engine

NEWS FROM AIRFIX

The world's greatest value in construction kits

HISTORICALLY-MINDED plastic modellers should be more than satisfied with the latest three Airfix kits. Released in time for Christmas are replicas of Sir Francis Drake's *Revenge,* a 1:32 scale 1914 Dennis fire engine and a 1:72 scale Grumman Wildcat VI.

The 176-part ultra-detailed kit of the Elizabethan galleon, *Revenge,* is the first to appear in the new Historical Ships Series 8, priced at 15s. Including very full and easy-to-follow assembly, painting and rigging instructions, plus cement, pre-formed ratlines, moulded sails and a sheet of five full-colour flags, this is an extremely absorbing model to make. An interesting feature is the keying of all the masts and spars, etc, so that they are not confused with one another during assembly. The sails are identified in the same way.

Revenge was a heavily armed ship, and included in the kit are 24 carriage guns and 12 swivelling cannon, each small moulding minutely detailed. Hatch covers are provided for the gun ports, but the guns may be omitted, and the covers cemented flush over the ports. Her detailed and complex superstructure consists of 34 delicately moulded parts. Fitting together easily, they form very rigid assemblies. This is, in fact, a very robust model, ideal for static display.

Moulded detail is very good, with hull and deck planking, gratings, windows, raised hull decoration and superstructure wouldings all reproduced. Engraved lines provide a painting guide and, with a white, red, green, yellow and blue colour scheme, this is a very gay looking little warship. Other features are detailed anchors, a 25 ft barge, deadeyes, a stern-walk, lantern, bitts and rudder.

Launched in 1577, the *Revenge* was quite an advanced design for her time. On June 19, 1588, Sir Francis Drake set sail from Plymouth to intercept the Spanish Armada. *Revenge* was his flagship. Engaging the enemy with gunfire at long range, and running rings round the Spaniards, the English—with their light and manoeuvrable ships—sank or disabled several of the enemy vessels, *Revenge* herself capturing the galleon *Rosario.* The end of the Armada story is well known, the Spanish vessels being harried up through the North Sea until, while trying to escape around the north of Scotland, the invasion fleet was finally broken up by a violent storm.

The fighting ships of that day had a long life, and the *Revenge* was again in action in 1661, under Sir Richard Grenville. At Flores, when quite alone, she was attacked by 15 Spanish ships. Fighting against hopeless odds, she sank two galleons and crippled two more before being forced to surrender. Grenville died from wounds received in the action and *Revenge* met her own end a short while later, sinking in a storm while being towed back to Spain as a prize. The Airfix model of this famous ship is 17 inches long and, complete with display stand, 13½ inches high.

1914 DENNIS FIRE ENGINE

JOINING the popular 'Old Bill' bus in the Airfix Veteran Autos Series 4 (price 6s), is a fine 144-part 1:32 scale replica of a 1914 Dennis fire engine. Certainly one of the most detailed models ever to be released by Airfix, the Dennis is moulded in red plastic and has many interesting features. Perhaps the most spectacular of these is the wheeled fire-escape. Almost a kit on its own, the escape can be built as a working model, rigged with strong thread or cotton, or cemented to the fire engine itself to form a most handsome static exhibit. Length of the escape when fully extended is nearly 22½ inches, while its 30 accurately moulded parts permit very smooth operation.

Beneath the body there is a wealth of mechanical detail, and the bonnet and body of the engine are removable, revealing the engine, pump-drive and transmission. The open driving cab is, in itself, something of a masterpiece of detailed model-making, such items as foot pedals, gear and brake levers, instruments, seat upholstery, bulb horn and alarm bell being carefully reproduced to scale. The bodywork also achieves a high standard of realism, bonnet louvres and meshed foot-rests being finely etched in the plastic. Hand rails and hose racks are included, along with three lengths of ribbed hosing and a four-man crew.

Very comprehensive instructions are provided, covering assembly and painting, and rigging the fire escape for a working model. Also included is a tube of cement and a 17-item colour transfer sheet. Both City of Coventry and LCC fire-brigade insignia are provided, and the model may be finished in the colours of either service.

Dennis Brothers produced their first fire engine in 1908. This engine, supplied to the City of Bradford brigade, rendered the horse-drawn appliances of the day obsolete almost overnight. Within two years, production had risen to almost 30 appliances a year. In 1915, the London Fire Brigade converted to Dennis appliances and purchased 68 that year. The Airfix model is based upon the first one that served with the City of Coventry brigade and which has now, after more than 44 years of service, been restored to nearly original condition and is preserved at the Dennis factory. The Airfix miniature is 8⅝ inches long with the retracted escape mounted.

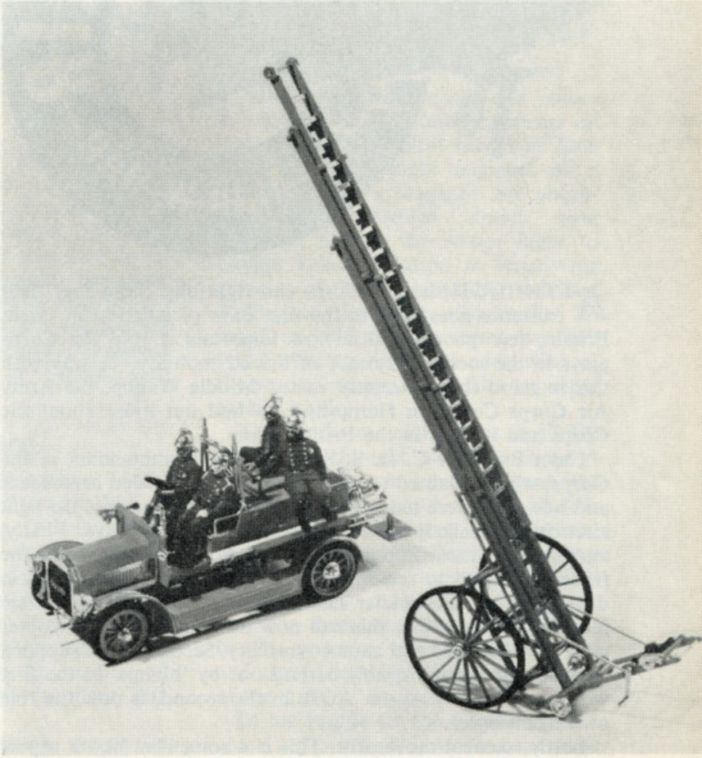
GRUMMAN WILDCAT VI

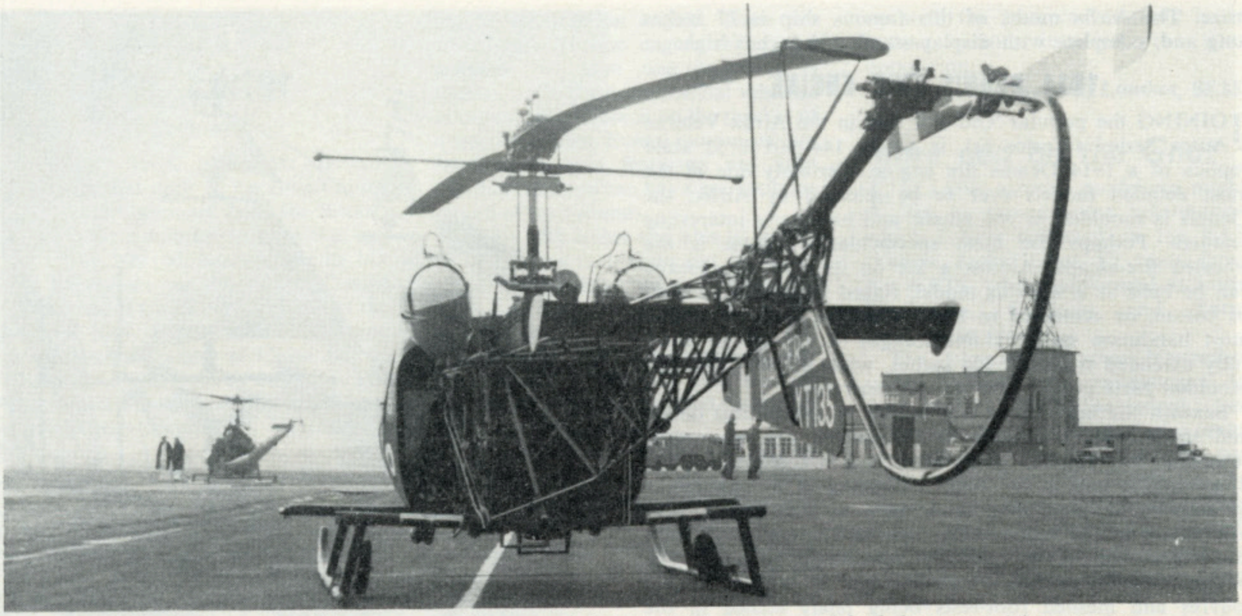
CONCLUDING this month's new Airfix kit releases is a 33-part kit of the Grumman Wildcat VI. Hardly one of the most beautiful fighters of the Second World War, the 'dumpy' Wildcat nevertheless proves an interesting model subject. The 1:72 scale replica has a revolving propeller, and the well-detailed undercarriage may be cemented in either the retracted or lowered positions, the fighter looking particularly purposeful with the legs retracted. Engraved detail depicts rivet lines, flap and aileron divisions, the radial engine and, an interesting point, the joint at which the wings of this carrier-based 'plane folded. A miniature pilot sits beneath an exceptionally clear canopy, and other features include underwing stores of two drop-tanks and six rockets, a radio antenna and fixed tail-wheel. A two-part display stand is provided, and a 21-item colour transfer sheet includes both British and US markings.

Built by General Motors to a Grumman design, the

Continued on page 151

Above: *First of a new* 15s *Airfix range of historical ships is this* 176-*part kit of Drake's* Revenge. **Below:** *Comprising* 144 *parts, the* 1914 *Dennis fire engine kit costs* 6s.





Tail-end Sioux. One of the many machines now at Middle Wallop being used for helicopter training purposes.

IN THE AIR

by Alan W. Hall

ALTHOUGH the Air Corps can rightfully claim that their existence goes back to the first days of aviation in Great Britain, few people realise how important a rôle the Corps plays in the modern concept of armed mobility. It was with this in mind that I recently visited Middle Wallop, the Army Air Corps Centre in Hampshire, to find out more about the Corps and its rôle in the British Army.

I met Brigadier C. D. S. Kennedy, the Commandant of the Corps, who explained to me why the Army needed aeroplanes and how they were used. The professional soldier uses the light aircraft and helicopters now available in three ways. Firstly, and perhaps most important, is the reconnaissance rôle, the traditional need to see what the enemy is doing. Whereas, in days gone by, the soldier had to capture high ground to see into the enemy camp, this can now be done by the helicopter with its high speed and manoeuvrability. Secondly, fire support, spotting for the guns, ably carried out by 'blimps' in the first world war and by Auster AOPs in the second, is now the rôle of the helicopter.

Lastly, tactical movement. This is a somewhat newer aspect of the use of aircraft in warfare. With fewer men to go a longer distance, and those that there are more spread out, a commander needs to be in several places at once. If the battle is being waged in jungle, for example, a distance of a few miles may mean several day's journey on foot, whereas the helicopter can do the journey in a matter of minutes. This has been well illustrated by the use of Army Air Corps units in Borneo and Malaysia recently.

AIRCRAFT ACCEPTED

Just as the Army fought hard to retain the horse during the first world war, it has been just as difficult to persuade the Commanders to use aircraft. Many have argued that the RAF should handle all aeroplanes but, in the view of the AAC, one cannot expect an RAF pilot to be an infantryman, nor can he be expected to conduct an artillery shoot with the same adeptness as the soldier. I was told that the Corps regard the training of a pilot as an easier job than training a pilot to be a soldier.

To overcome the problems of the use of aircraft, I found that under the latest operational set-up helicopters are being provided for units of the Army such as Signals, Artillery, Engineers, Infantry, Tanks and Armed Recce units. The pilots are seconded to the Army Air Corps in the first place for training, and are then sent back to their units to fly the Bell 47Gs or Scouts provided. The numbers of aircraft in each unit are dependent on the rôle that is required of the unit at any one particular time. Artillery or Recce units may have as many as six Bell 47s, Engineer units only one.

HIGH STANDARD OF TRAINING

Although the Army Air Corps is entirely separate from the RAF, they maintain the same standards in their flying. In certain aspects they have to achieve far higher standards, such as in map reading and observation, the use of radio communications and the ability to use their aircraft to get in and out of confined spaces.

The training given at Middle Wallop takes nine months to complete. A volunteer from ground units is sent to the Aircrew

Selection Centre at RAF Biggin Hill, and then undergoes tests and an interview at Middle Wallop prior to commencing his training in the air. Of the many volunteers that come forward, all of whom have served at least three years in normal Army units, about one third do not finish the course and qualify for their wings.

Chipmunks are used for basic flying training, which lasts for 10 weeks and which all entrants take. They are then split into rotary wing and fixed wing courses, and for a further 20 weeks train on either the Auster AOP 9 or the Hiller UH-12, Bell 47G and Scout. Fixed wing students finish their course on the Beaver, as policy is now concentrating on the use of the helicopter in Army units, making the Auster obsolete for operations in the field.

CENTRE OF ARMY AVIATION

Apart from pure flying training, Middle Wallop is responsible for the training of all REME servicing personnel and RA non-technical ground staff. The Centre is the sole agency for the correlation and dissemination of tactical doctrine to all operational AAC units. It provides guidance for all arms on the correct use of the aircraft at their disposal on the battlefield, and prepares pamphlets and instructions on behalf of the Director of Land/Air Warfare. Evaluation of new aircraft and trials of ancillary equipment are also performed at the Centre, as well as the conversion training of pilots on to new types of aircraft as these come into service.

Perhaps the most interesting of all the aircraft types at Middle Wallop was, for me at least, the Bell 47G-3-B1, which is now known as the Sioux. Seventeen helicopters of this type are on strength, the first arriving from the manufacturers in Italy on June 20, 1964. Westland Aircraft Ltd are undertaking licence production of the type and some 200 are to be built for Army units.

The Army pilots like them immensely, and feel that they are just the right sort of aircraft needed to replace the ageing Skeeters with which many units are still equipped. Three typical serials I saw were XT141, 143 and 148. Similar to all other aircraft used in the training rôle, these aircraft are painted in standard Army green and brown camouflage but with large areas of dayglo applied.

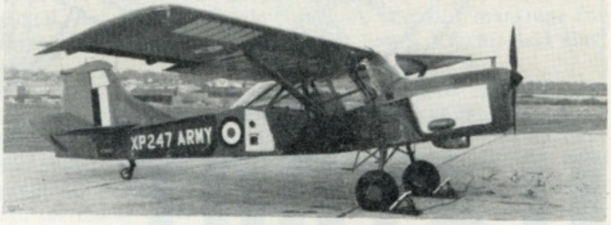
CHIPMUNKS MOST NUMEROUS

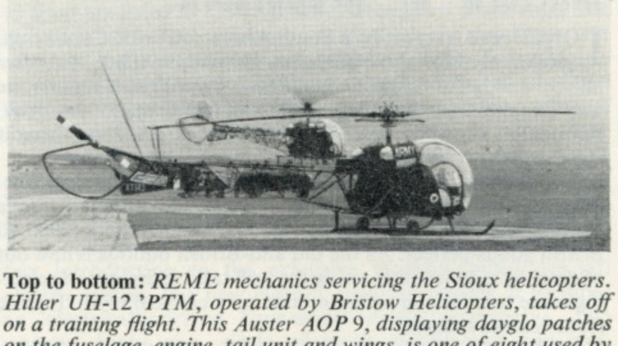
The most numerous aircraft on the Station were the Chipmunks. I counted just on 20 of these, painted all silver with the now familiar dayglo patches, applied in the same way as their RAF equivalents, but with the word ARMY appearing before the fuselage serial. Individual codes appeared on the fuselage sides under the cockpit and on the nose of each aircraft. Typical serials were WK559 'M', WP772 'Q' and WP930 'J'.

Hiller UH-12s, owned and operated by Bristow Helicopters and used for initial helicopter training, were the next most numerous. Registrations observed were G-ASVK, 'PSH, 'STR and 'STP. Civilian instructors are used for this training and the aircraft are maintained by civilians of the firm.

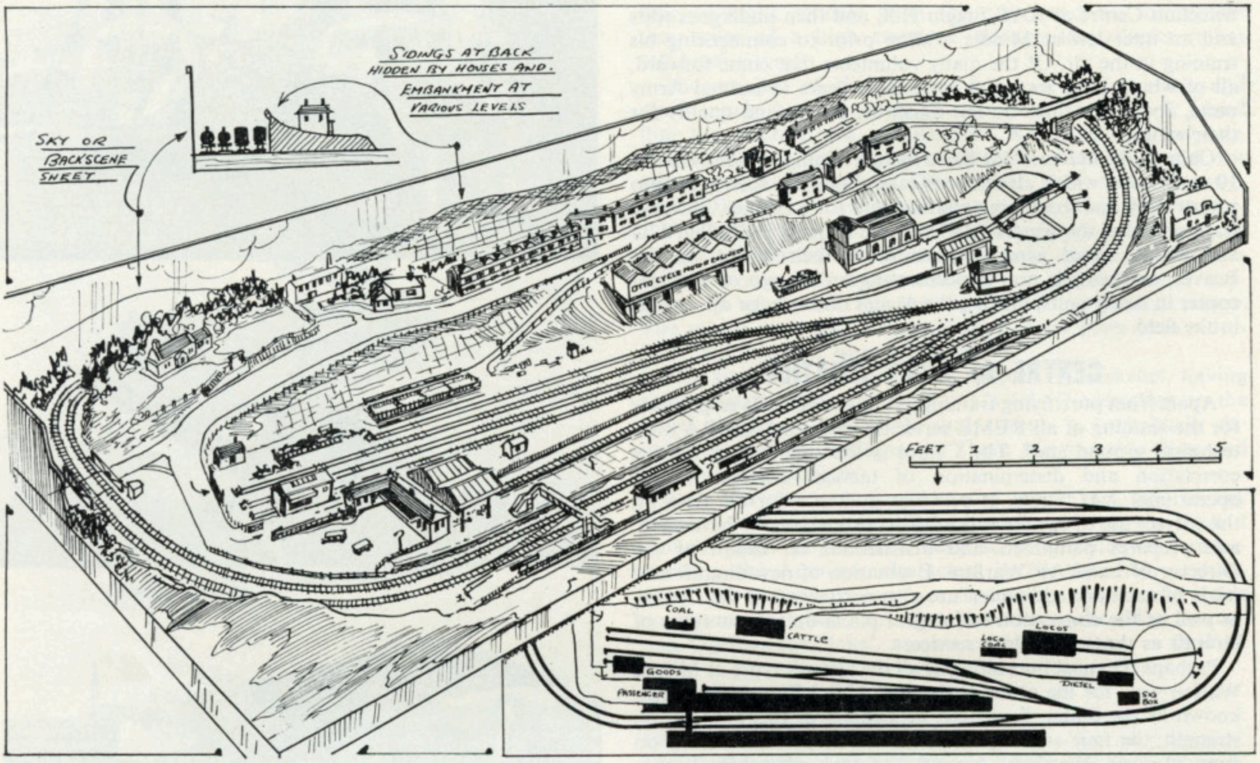
Eight Austers and three Beavers made up the fixed wing element. Several Scouts were also to be seen, but most of these belonged to operational units stationed at Middle Wallop. A Skeeter XL814 sat in the Trials hangar and XR942, the Beagle WA116, also occupied a corner, having recently completed its evaluation for Army purposes.

Although the Army Air Corps has only been in existence since September, 1957, it has made considerable progress since that date. Its origins go back into the early history of aviation, and these traditions were very evident in most of what I saw.





Top to bottom: *REME mechanics servicing the Sioux helicopters. Hiller UH-12 'PTM, operated by Bristow Helicopters, takes off on a training flight. This Auster AOP 9, displaying dayglo patches on the fuselage, engine, tail unit and wings, is one of eight used by the Army for fixed wing instruction. Beaver XP770 undergoing pre-flight checks by the girls of the REME servicing flight. Built by the Agusta company in Italy, these first Bell 47Gs will shortly be joined in the Army's operational units by licence-produced aircraft from Westlands.*



A large breadboard layout, which can be simplified, if needs be, as described in the text.

LAYOUT REALISM

—by Alex Bowie

Matters of proportion

I ONCE read a report by a South African on some Continental models used for show purposes. He said, in effect, that after all the wonderful things he had heard from British reports, he was disappointed that they would not stand up to the work. Personally, knowing the old British habit of praising others at the expense of the home product, I'm not a bit surprised.

It is possible, given a blinkered viewpoint, to build up a one-sided picture of any situation. I could for instance 'prove conclusively' that all overseas goods were inferior and all British goods perfect. As the old anti-British outlook is now out of date, let's do just this, using the well tried technique of selecting some true facts in order to build up a colossal myth. I quote from various sources.

(1) A well-known consumer magazine enlisted the aid of a model railway club in testing all the well-known makes. The one which passed 100 per cent on reliability was British.

(2) A certain British loco was said to be too fast. This was quoted as being like 'so many British locos', yet its speed, lightly loaded, was almost identical to the prototype, ie 90 mph. Continentals tested that year varied from 100 mph for a dock diesel to 200 mph for a highly ambitious Continental Pacific.

(3) A new British electric outline loco was slated because its bogies were too long. Yet a previous model of the same loco, but Continentally inspired, had precisely the same 'fault', obviously for production reasons.

(4) 'British locos are technically inferior'. But let's take the two *leading* makes from the US and the Continent. Both use old-fashioned AC propulsion, balloon tyred wheels and needlessly complicated reversing systems, which are sometimes uncertain. All this seems to damn the foreign product, but in fact proves nothing except that it is very easy to build up a false picture. The true facts are that in every country there are models designed by skilled technicians who know their markets thoroughly. If, as happens everywhere, some of these technicians design models which are not strictly to the 'rules', they are not necessarily wrong, any more than are those who design for another kind of market. Nationality has nothing to do with it, and it is significant that the three proprietary firms in their respective countries which have taken most liberties with scale dimensions are those which have easily the biggest sales.

NOT UP TO SCRATCH

But that is another story. We are getting dangerously close to the toy versus model controversy. Scratch builders have a separate school of critics. These, armed to the teeth with drawings, photos, slide rules and digital computers, turn up at exhibitions. It is fascinating to watch as they tenaciously examine every square millimetre of a model. An apparently perfect loco will cause despair and disappointment until, Eureka!, one of its 2,000 rivets is found slightly undersize. You will under-stand from this why so many exhibitors appear to be worried men. One false rivet and a thousand-hour masterpiece is only fit for the dustbin.

But now for more serious matters. We active modellers all make some howlers, and among the worst are amateur architecture or civil engineering, particularly when we adapt or alter kits. A popular theme is the Airfix engine shed, supporting a huge Airfix water tank.

SHED TOPICS

Look at the sketches. These show a typical twin shed, manfully holding hundreds of tons of steel and water on its flimsy ridge. In real life the whole lot would collapse even before the tank was filled. A smaller tank, cut down from the original kit, also illustrated, would be feasible and would look better. On a larger layout, with a large shed, the big tank is practical, and to get the right appearance the modeller should put himself in the place of the architect or engineer, as follows.

A large full tank of tremendous weight must be adequately supported. Therefore it could fit snugly on to well buttressed or strongly built walls. Whatever form the structure takes, there should be no apparent sign of weakness. You will notice that I have bricked up one window with spare plastic, and this subterfuge allows it to be imagined that the tank is well supported internally.

I have given an alternative shape of shed, which is very compact, to the right of the sketches. Lower down is an old steam shed converted to diesel, with the roof formed of canopy kits. The diesels use a little water, of course, but one assumes that sooner or later this tank will be scrapped for a smaller one, and is not considered worth a coat of paint.

THIS MONTH'S LAYOUT

Now for this month's layout. It is of a kind which is very popular. Its breadboard shape is more often used for portables, but there is a definite demand for a large layout of this shape, for the following reasons:

Firstly, the owner may have part of a large room permanently at his disposal. Secondly, he likes a circular layout because he can see it all at once. I have often pointed out before that any circular layout of this kind has its drawbacks. But unlike the professional critics, we know also that all things have their drawbacks, too. On that basis, we accept the rather bulky baseboard, and turn it into a practical proposition.

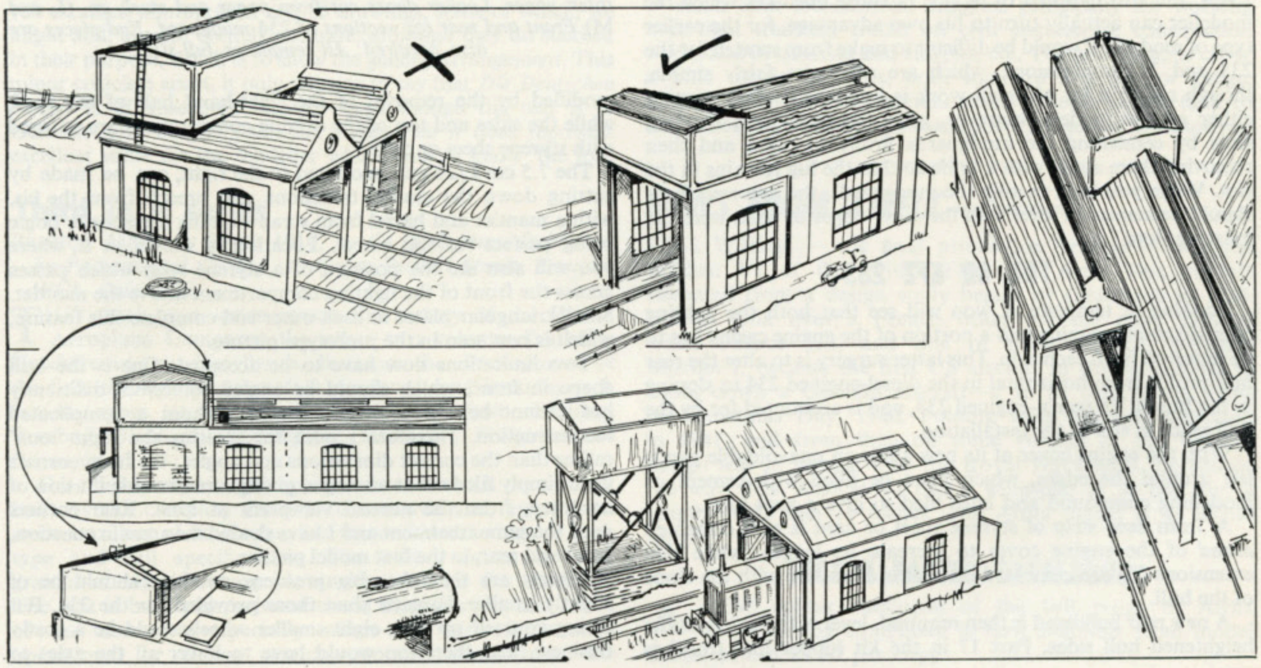
Note that the foreground can be very impressive because of the depth of the layout. The circle of track disappears out of sight behind a built-up embankment, and fans out into storage or lay-by sidings, as is clearly shown. These sidings can be left out, but I always put them in because, for the price of a few points, the operational value of the layout is enormously increased.

Instead of an embankment, you could have a simulated tunnel, with an open top for access to derailed trains, etc. But leave plenty of room for accessibility. This layout is fairly big, and could be divided lengthways, though division is hardly necessary where it is a permanent fixture. You will note that there is plenty of track and scenic work but, as with many of the circuits I sketch, either can be cut down in scope and length.

Not only that, it isn't essential to have a double-tracked main line, and the yard can be simplified. Suggested alterations would be the elimination of one of the re-sorting or shunting loops. From a practical point of view, I suggest that as a compromise the main line loop is retained, even though it would be less desirable to use the main line for shunting, in prototype. Your loco depot could be simplified, and the station bay eliminated. There could be one less track in the goods yard, too, and there would still be plenty of room.

I mention all this for a reason, and will now refer back to the hidden lay-by loops. These should be retained if possible, whether you choose the layout as sketched, or a simpler version. They not only have valuable operational uses, but if used for storage will keep the layout clutter-free. As I pointed out some years back, the least realistic layout is that which appears to have more stock than it would carry in prototype.

This sketch shows the various sheds referred to in the text, including both good and bad designs.



Military modelling

by C. O. ELLIS

ARMOURED CARS FOR THE AFRIKA KORPS

and a German anti-tank gun

FOLLOWING last month's 8th Army feature, it is now appropriate to consider some special equipment for the Afrika Korps.

The recent release of a German armoured car kit by Airfix gives an opportunity to make two of the earlier eight-wheelers—the Sd Kfz 233 and Sd Kfz 263—which figured prominently in the desert campaign, though it must be stressed that they also saw service on most other fronts.

Elsewhere in this issue, reader P. Hodges takes Airfix to task for providing incorrect mudguards with the new Sd Kfz 234/4. But this happens to be one of those mistakes which the modeller can actually turn to his own advantage, for the earlier type of mudguard would be difficult to make from scratch for the 233 and 263 conversions, which are otherwise fairly simple, though rather a lot of detail work is involved. Before starting either of the models, however, plug the mudguard locating slots by cementing the mudguards firmly in place and then removing them again with a knife so that the lug remains in the slot. When you later re-affix the mudguards, the *upper* surfaces should be cemented level with the *lower* edges of what were the locating slots.

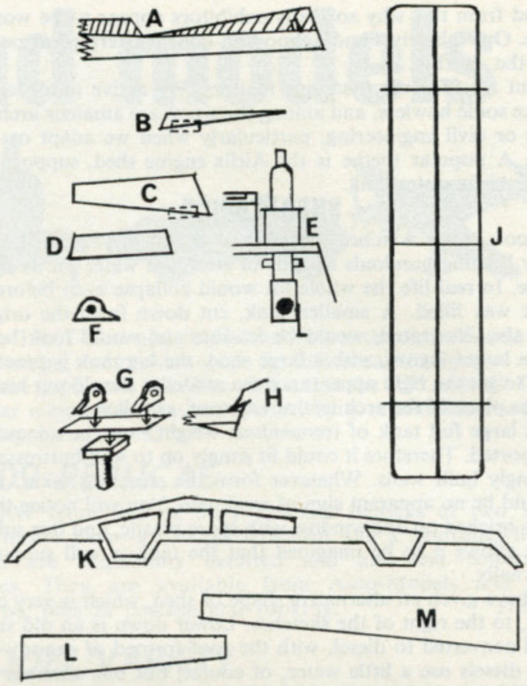
THE SD KFZ 233

Looking at template A, you will see that both the fighting compartment coaming and a portion of the engine casing has to be removed from each side. This latter surgery is to alter the rear hull profile from horizontal in the diesel-engined 234 to sloping in the Bussig V8 petrol-engined 233, and is accounted for by the difference in size of the installation.

With the engine cover at its new angle an unavoidable gap is left around the edges, which must be filled with cement or modelling compound and later filed to give a neat joint.

A 7mm deep strip of styrene sheet or card is next cemented *ahead* of the engine cover to increase its length, while side extensions (B) are cemented on each side in line with the slope of the hull.

A new rear bulkhead is then required, level with the top of the heightened hull sides. Part 17 in the kit (upper hull front) is modified by the removal of the right-hand half of the roof, while the sides and top of the driving compartment are covered with styrene sheet or card.



Key to drawings: (A) *Plan view of rear hull sides (parts 10-11). Remove shaded portions (Sd Kfz* 233 *and* 263). (B) *Hull top extension for Sd Kfz* 233. *Visor shown dotted.* (C *and* D) *Hull top extensions for Sd Kfz* 263 *Funkwagen.* (E) *Plan view of 7.5cm gun, showing location to right of driving compartment.* (F) *Cut gun cradle sides (part* 1) *to this size for Pak* 40 *model.* (G) *Adapting* F *(above) to the Airfix 6pdr gun cradle (part 26 in Carrier kit). Horizontal piece is 8mm×5mm strip of card or styrene sheet.* (H) *Trail end detail for Pak* 40, *showing wire lifting handle. Add to modified 6pdr trails.* (J) *Bedstead aerial.* (K) *Correct pattern mudguard side for Sd Kfz 234/4. Cut from thick paper. Locker doors cut from paper and stuck on.* (L *and* M) *Front and rear top sections of* 234 *mudguard. End pieces are also required. All templates full-size.*

The 7.5 cm L/24 gun, mounted to the right, can be made by cutting down the cradle, trunnions and breech from the kit, with a mantlet and barrel from scrap—a tank transporter bogie being perfect for the barrel. Location is shown in E, where you will also see the position of a styrene strip which passes across the front of the fighting compartment above the mantlet. Small triangular plates at each outer end complete this feature, which is best seen in the prototype picture.

Two limitations now have to be accepted. One is the hull shape in front, which should be angled somewhat differently but cannot be altered in the model without a complicated reconstruction. Therefore I went for creating the right 'look' rather than the correct dimensions and angles; the front corners were simply filed off at an angle, giving a reasonable illusion of accuracy, from the normal viewpoint at least. Rear corners need the same treatment and I have shaded the areas in question, front and rear, in the first model picture.

Wheels are the other big problem, as these should be of slightly smaller diameter than those provided for the 234. But fitting yourself up with eight smaller wheels could be a costly business, and then you would have to lower all the axles to compensate for the reduced diameter! The easy way out is simply to slice 2mm from the top of each wheel and then fix them rigidly to the axles. With the mudguards in place, the finished appearance is not at all odd. The secret, in fact, is having the mudguards at the correct level relative to the angled hull top.

FUNKWAGEN

This interesting radio/command vehicle was mechanically similar to the 233, and was built on the same basic hull. Known as the Sd Kfz 263 Funkwagen, it was distinguished by the impressive 'bedstead' aerial array and its lack of an offensive weapon, which was suppressed to provide room for wireless equipment, map tables and seats for radio operators, a force commander and his staff officer. It makes a pretty little model, construction—where relevant—following the lines of the 233. Templates are given for the hull sides (C and D) and aerial, but you will also need to cut out a roof, and front and rear superstructure faces after the sides have been added. There should be a 6mm × 5mm roof hatch and a periscope, while an access door on the rear face should measure 10mm × 5mm. The aerial can be made up from wire, either glued or soldered, and curved slightly from end to end. Wire supports, 9mm high in front and 11mm at the rear, are also required and the completed array should be adjusted so that its highest point is 38mm from the ground.

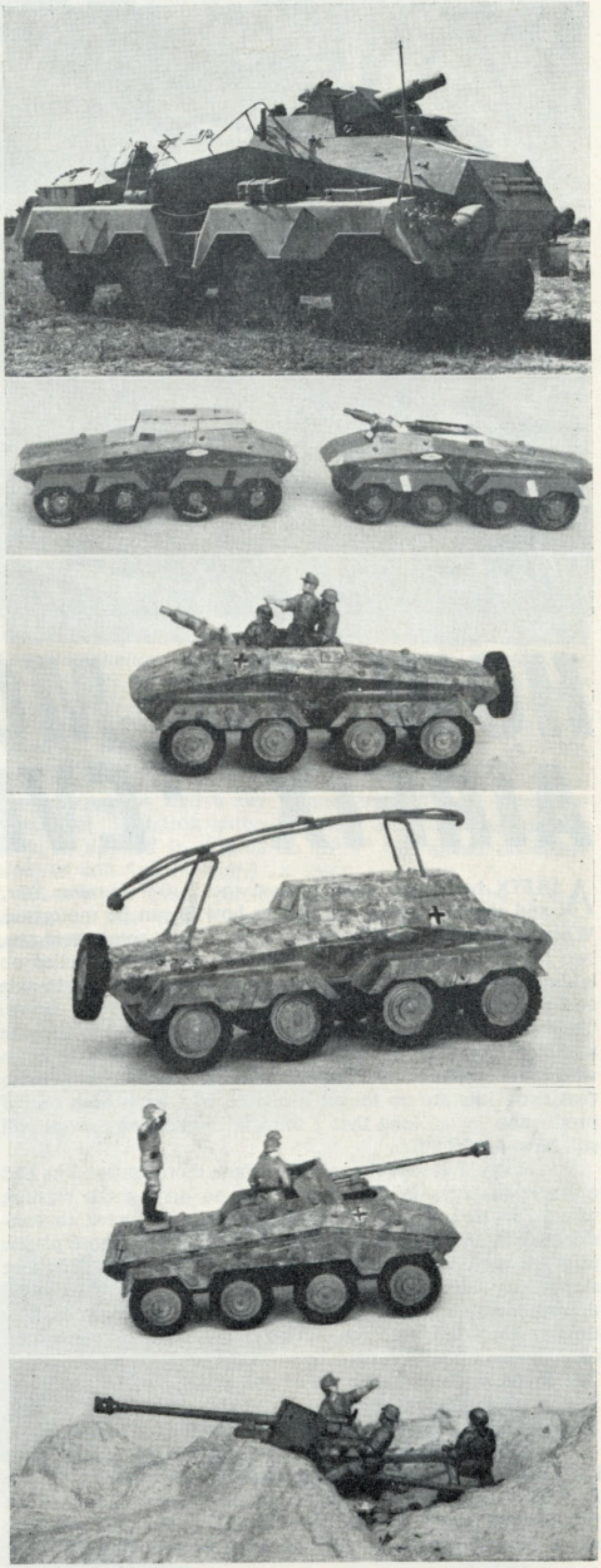
Small details applicable to both the 233 and 263 are spare wheels to disguise the absence of a rear grille, locker doors (2 mm wide) on the mudguards, visors, and small diamond-shaped hatches (6 mm long, 3 mm wide) intended for the disposal of empty shell cases. Finally the hull doors should be scored vertically to represent two flaps, and the upper hinges can be filed off.

A USEFUL GUN

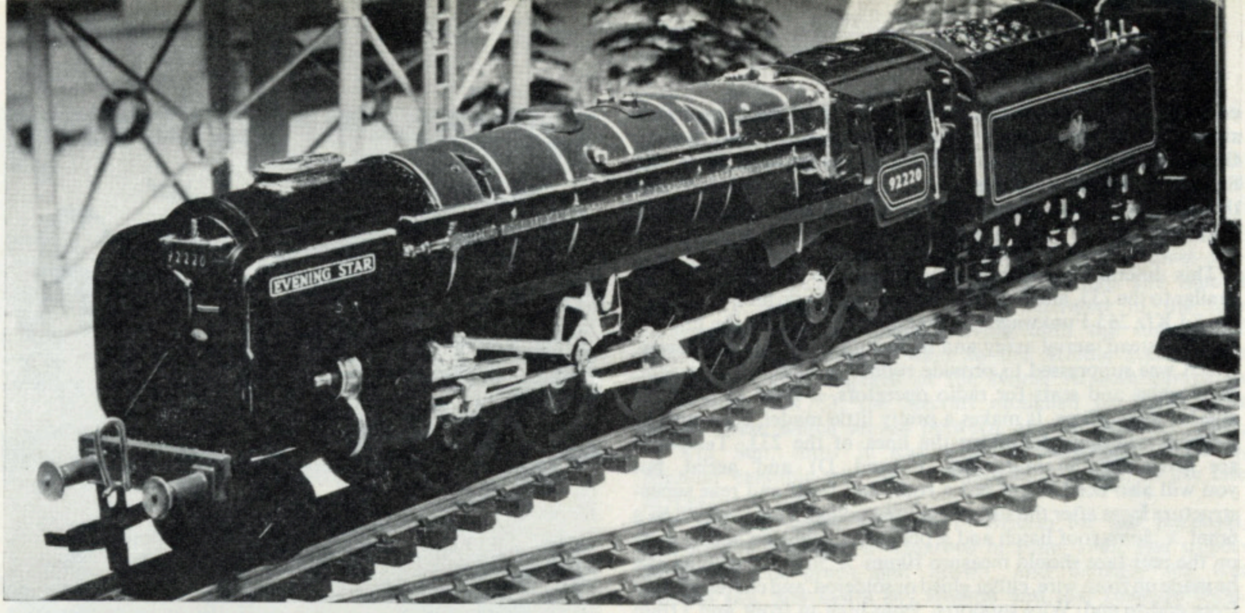
One of the Wehrmacht's best-known guns, the 7.5 cm Pak 40, can now be made from the gun left over from the Funkwagen conversion. For this you utilise a spare 6 pdr gun carriage, with the trails carefully straightened (by bending) and then filed to a rounded cross-section with the ends modified as in diagram H. The original 6 pdr gun cradle (part 26) has its lugs removed and is filed to half thickness; meanwhile the gun cradle sides in the armoured car kit are modified as in F and cemented to a styrene strip. Diagram G shows how a new cradle is assembled which will allow the Pak 40 to elevate and traverse.

Assembly follows the method used for the original 6 pdr, except that the pivots on the trails should be filed to half thickness to keep the gun to its scale height of 18 mm to the top of the shield. A few 'dry runs' are advised first, so that you can see if further filing becomes necessary. The solid disc wheels are best made from Panther road wheels, which are about the nearest in size and appearance that are available, although strictly speaking

Continued on page 141



Top to bottom: *Mounting a 7.5cm L/24 gun, the Sd Kfz 233 armoured car was largely used in the close support role, and appeared in the desert in 1942. Family likeness to the later 234, as modelled in the Airfix kit, is readily apparent. This view shows some interesting small details which could be added to the model.* (Photo: courtesy Imperial War Museum.) *The 233 and 263 models under construction, showing all the structural alterations and additions. Tyres are painted before assembly. Front and rear corners, where filing is required, are shaded white. Completed model of the Sd Kfz 233, with Afrika Korps crew. The finished Sd Kfz 263 Funkwagen. The Airfix Sd Kfz 234/4 model with correct pattern mudguards fitted. Well dug in behind a desert ridge, the Afrika Korps crew of a 7.5cm Pak 40 model wait to engage approaching 8th Army tanks. This is the wheeled version of the gun fitted in the Sd Kfz 234/4 armoured car.*



Above: *The 2-10-0 'Evening Star' is the latest ex-Kitmaster locomotive to be re-released under the Airfix label.* **Below, right:** *Suggested motorisation using horizontal motor mounted in the tender.*

Plastic Modelling

by Mike Bryant

HOW TO MOTORISE THE AIRFIX 'EVENING STAR'

AIRFIX have now re-introduced the 2-10-0 *Evening Star*, and already readers are asking how it can be motorised. When Kitmaster originally brought out this kit some years ago, two firms offered methods of motorisation. Perfecta relied on adding tyres to the kit driving wheels, sleeving the driven axle and providing a specially made worm wheel to fit the sleeve. They also fitted a cast weight to give adhesion and to provide a motor mounting block, and bushed the driving axle holes with brass eyelets to take the wear. I must, however, emphasise that these kits are no longer available, and have been out of production for so long that I think it unlikely any shops will still have stocks left.

Personally, I always thought that these motorisation kits had a basic weakness in that they relied on driving the existing wheels, so that the plastic valve gear was subjected to considerable strain in transmitting the drive (some of those plastic pins are very, very small). The second kit was, and I believe still is, marketed by W & H (Models), and consists of metal driving wheels and axles, frame bushes and coupling rods. The driving wheels are the force-on variety and have to be insulated on one side by a fibre strip between the wheels and the axles. The kit is in the same series as the one I mentioned in my Prairie motorisation article in last January's issue of AIRFIX MAGAZINE and is not, in my opinion, suitable for beginners.

A possible answer would be to motorise the tender. This immediately removes one bugbear; any motorisation of the *loco* (as opposed to the tender) either puts a great strain on the plastic valve gear or involves you not only in buying a complete set of driving wheels and axles (a costly process with a 2-10-0) but also in making a complete metal valve gear. A 10-coupled chassis with full valve gear is not to be recommended as a suitable starting point for a beginner!

Motorised tenders driving a free-running loco are not, of course, anything new. Indeed, K's market tender motorising units complete and ready-to-run in both OO and TT3 but, alas, the wheel spacings available do not include a 7 ft by 7 ft one for *Evening Star's* tender. So we are left with no alternative but to build our own. This need not be a daunting process, provided that you are prepared to take a reasonable amount of care in the building. Careful choice of components can produce an inexpensive mechanism. The design will naturally depend on your choice of motor and gears, but here are some general ideas.

The sketch shows a possible design, with the motor placed horizontally above the wheels, driving a worm layshaft through spur gears. Note that the tender wheels now run in inside bearings and that the whole motor unit is self-contained, being held into the tender by two screws.

The material you use for the motor unit depends on your capabilities. Brass of about 24 gauge would be eminently suitable if you are used to working in metal, but 0.03 inch plastic card can do just as well, provided (a) that it is adequately cross-braced, and (b) that *all* bearing holes are bushed to take the wear. Layshaft bearings can be rear axle bushes from any Airfix racing car rear axle set of spares, and the axles can run in short lengths of thin brass tubing cemented into the plastic sideframes of the motor unit. If you do use plastic for the components, I advise you to use two brass frame spacers—sold by K's and W & H (Models)—to stiffen up the whole assembly.

They should be fixed by cheeseheaded screws with a metal washer interposed between the head of the screw and the plastic sideframe.

GEARING

For the spur gearing between the motor and the layshaft, Ripmax 20-teeth plastic gears will do very well. The choice of the worms and worm wheels will depend on whether you are working to scale or to Tri-ang wheel standards. If you are using Tri-ang, you could use their A-1-A wheels with the worm wheels moulded integral with the axles—you will need two pairs of these and one pair without the worm wheel for the centre axle. Your layshaft will naturally carry Tri-ang worms. These wheels are, of course, disc and not spoked, but the tender sideframes come so low down that the difference will only be spotted by the eagle-eyed.

If you are using wheels to scale standards, you can use Romford tender wheels, Peco insulaxles and Romford motor bogie worms and worm wheels. Alternatively, you can fit Nucro or Jackson wheels with Romford gears to save some expense. Again the absence of spoked wheels will not be noticeable.

CURRENT COLLECTORS

Current must be collected from the four outer wheels, and possibly it would be a good idea to collect from all six. Thin phosphor bronze wires should be arranged to bear down on the tread of each wheel lightly but positively. The tender should be weighted with strips of lead; cram in as much as you can without fouling the motor or the brushes. The heavier the tender is, the better.

The loco should be assembled according to the Airfix instructions, except that a slug of lead should be cemented inside the boiler over the centre pair of driving wheels. The leading truck should also be weighted to minimise the possibilities of derailment. All working parts should be oiled or lubricated with graphite grease.

There is one further possibility which readers may like to try. I think the Tri-ang A-1-A motor bogie has the correct wheelbase for this tender. It might be possible to grind off the bogie sideframe detail, thin down the Airfix tender sideframes and cement them to the motor bogie sides. I think this will result in over-wide tender underframes, and it will probably be necessary to fudge a bit to get the bogie in. Probably the tender underframes will have to be cut carefully from the tender sides to allow the underframes to 'expand' a little. I should like to hear from any reader who goes into this possibility more fully, because I should emphasise that this is an idea *only* and that I have not tried the method myself, having no motor bogie handy when writing this article.

These have been general ideas on the 2-10-0 motorisation. I hope next month to publish dimensioned drawings of one particular application of the methods to this loco.

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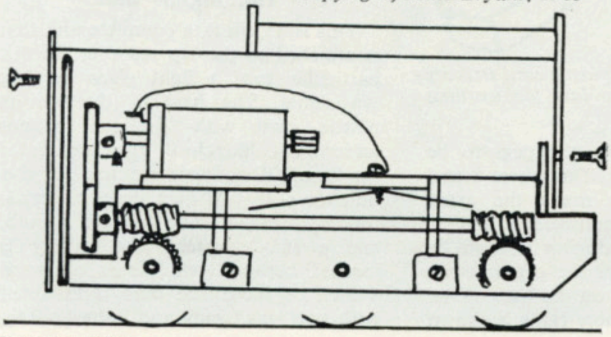


NEWS FROM IPMS

As this is the first issue of a new year, it is appropriate once again to restate the aims, constitution and general activities of the International Plastic Modellers' Society. The Society, now entering its second year, was formed by a small group of modellers for their mutual benefit, and for the benefit of modellers everywhere. This is largely achieved by pooling the knowledge available to members via the Society's information service and monthly news-sheet.

The Society is an entirely amateur organisation, completely unconnected with any commercial firm. The three major plastic kit manufacturers in this country are Associate Members, and do give the Society every support, but that is all—Associate Members do not even have the right to vote at the Society's AGM. Particular emphasis must be laid on this point, because various people seem to have the impression that IPMS is a disguised commercial organisation run by one of the manufacturers (in particular Airfix because of the generosity of AIRFIX MAGAZINE in allowing us this monthly space) but we can most definitely state that this is not the case.

Apart from the news-sheet and information service, the Society produces pamphlets at odd intervals dealing with particular subjects, available to members only, and will shortly be producing a fully illustrated quarterly magazine. As regular readers of this column will know, IPMS also has branches in various parts of the country where meetings are held to further the interchange of ideas. London meetings are always held at the Porcupine, Charing Cross Road. The next meeting there will be on Friday, January 1, 1965.

All enquiries concerning membership of IPMS should be sent to the Hon Secretary, R. R. Wainwright, 23 Chadville Gardens, Chadwell Heath, Romford, Essex.—*R.R.W.*

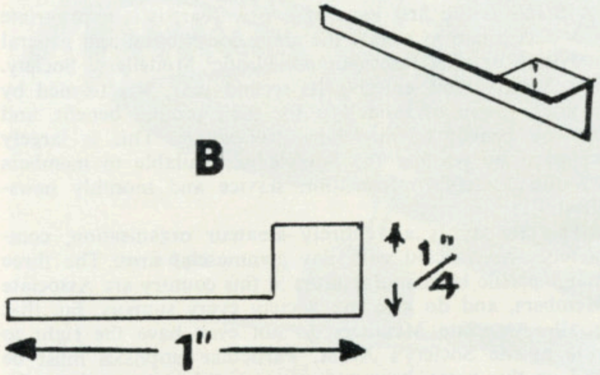
MILITARY MODELLING—*Continued*

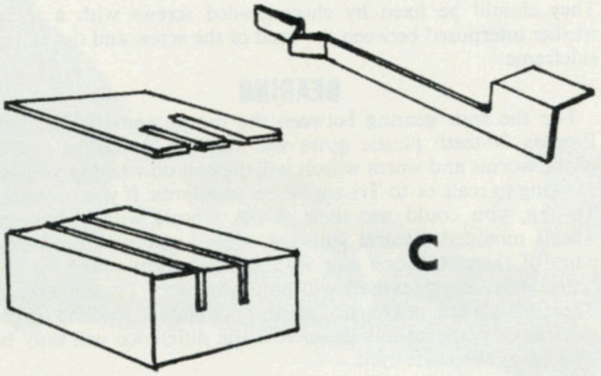
they should be of the ribbed type. Each wheel is formed by cementing a concave and a convex Panther wheel back to back, after first removing the bosses. The convex faces should be outwards when fitted to the gun.

In the absence of a suitable half-track towing vehicle in the Airfix range at present, I suggest that as an interim measure—for the Afrika Korps at least—you adopt Rommel's methods in miniature and smartly 'capture' a British Quad for the purpose! This would be quite in order, since the Afrika Korps, with a restricted supply of replacements across a hostile Mediterranean, were forced to make extensive use of captured transport to supplement their own equipment. All you need do for a Quad captured 'in the field' is to 'whitewash' big, freehand, crosses on the sides and top, not necessarily even painting out the British markings. A captured vehicle which had been 'shopped' might also have been repainted in mottled sand with proper black crosses, but this would be less likely.

CORRECT MUDGUARDS

Finally, for those who wish to add the correct-pattern mudguards to the Sd Kfz 234/4 model of later vintage, I have included the necessary templates. When damaged, these somewhat flimsy fittings were sometimes completely removed to avoid impeding the wheels, so you can omit them from the model altogether if you wish. But please do not put the twin mudguards on an Sd Kfz 234! Meanwhile retain the templates for next month, when a further batch of armoured car variants will be described.





Sketch B shows the shape of the sheet brass contacts, which are mounted in small plastic blocks as shown in sketch C.

Wheelspin

BY BERT LAMKIN

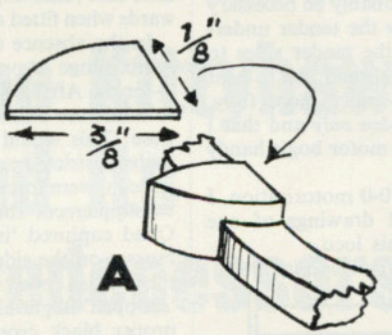
Last lap warning system for the Airfix lap counter

Of the two recent additions to the Airfix Motor Racing accessory range, the lap counter will no doubt have the wider appeal. It is simply a matter of substituting the recorder for a standard straight, and the unit works very well at both slow and fast car speeds. The operation of the counter is from left to right, and you can usually position the counter at such a point that the numbers are easily readable by the 'drivers'. However, if you still find that the lap numbers have to be viewed upsidedown, the simple answer is to reverse the counter and run the cars the other way round.

A possible refinement is the addition of two more 'windows', and to do this the back has to be removed. Undo the two screws in the centre of the reset wheels, and the works are then exposed. Cut the new apertures in the track surface to the same size, but diametrically opposite the existing windows. A piece of perspex must be cemented into the openings to prevent car wheels dropping in. Before replacing the back, a small piece of paper will obscure the old unwanted windows.

A minor limitation to this type of unit is that it only counts up to 12 laps. To increase the scope, another modification in the form of a last lap signal can be fitted, and this can be either a lamp or a bell. To achieve this means fitting two pairs of contacts and the necessary operating cams. This can be done as shown in the sketches.

Firstly, fit the 'cams' or strikers—these are of plastic card $\frac{3}{8}$ inch × $\frac{1}{8}$ inch cemented to the appropriate pegs on the numbered discs. In view of the siting of the contacts, the pegs to be used are those between numbers 8 and 9 or, if you have made the extra windows, between numbers 2 and 3. The pegs will need reducing in height or thickness to allow for the plastic card, otherwise it will rub on the back plate. The final shape of these cams is shown in sketch A. With the unit upside down in front of you, you will see the striker mechanisms are placed one above the other (note the moulded letters L and R). To the left of the top one is the circular stop and anchorage of the return spring. Both these will need reducing to give clearance for the left-hand cam.



Shape and size of the plastic card strikers which trigger off the last lap warning signal.

The contacts, from thin sheet brass, are shaped as in sketch B. You will note that one of each pair has a kink near the end—this provides the actual connection with the adjacent contact, the travel being governed by the rotation of the cam. The contacts will be closed all the time number 11 is showing. They are mounted in a small block of plastic as in sketch C; this is then cemented into position inside the unit with the contacts within reach of the cams. Before doing so, check by rotating the number disc while holding the contact assembly in place. A length of thin wire, similar to the leads on the controller, is soldered to each contact—this should not be less than 18 inches long. These leads are brought through small holes drilled in the backplate, which can now be refitted.

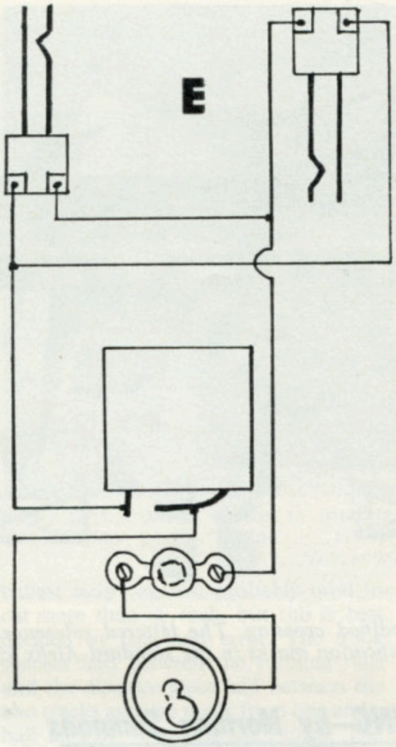
The signal unit

This is, in effect, a complete unit that is attached to the lap recorder. In this particular case a light gives the last lap signal. The base of the unit is plastic card with $\frac{3}{16}$ inch battens underneath. Sketch D gives details of the base. Other items required for this unit are a 4½ volt flash lamp battery—the flat type—a bulb holder, a bulb, and a small switch. The battery is located between two pieces of wood 1 inch × ½ inch. The bulb is mounted with two small nuts and bolts (8 BA), which will also provide electrical connections, so you will need two nuts and washers to each bolt.

You can also use 8 BA bolts to fit the switch, with small holes through the card base registering with the sockets of the switch. The shaded area on sketch D is cemented to the underside of the track of the counter, after three inches of the side wall has been removed. The surface of the plastic card base will then be $\frac{1}{16}$ inch below the track surface. A cover, which will also retain the battery, is made from plastic card. This cover carries a coloured cap, either red or green, obtainable from radio spares shops. They are associated with pilot lights in the radio world. Alternatively, you can make a cap from perspex. Make it high enough to clear the bulb, which will be projecting slightly through the cover.

The next stage is to attach the new unit to the recorder. Cut away three inches of the side wall on the side you want the light to be, spread cement over the shaded portion shown in sketch D, and slip under the track surface until the inner edge meets the side of the slot. Make sure there is a good contact between the two surfaces. When the joint is quite set, the components can be wired in accordance with sketch E, the wires from the counter contacts passing beneath the new base. Small crocodile clips can be used for connection to the battery tags, which will enable the battery to be changed when necessary without recourse to a soldering iron. Sellotape will keep the wires tidy underneath.

The circuit connects both pairs of contacts to the same lamp, so that it is the leading car which will give the signal. When the wiring is complete, cement two strips of card across the ends of the 1 inch × $\frac{1}{4}$ inch wood strips, which will then enclose the battery and lamp. Before fitting the cover or top, which is held in place by four small wood screws, check that the unit works by tripping the striker with a pencil or small screwdriver.



Wiring diagram for the completed 'last lap' warning system.

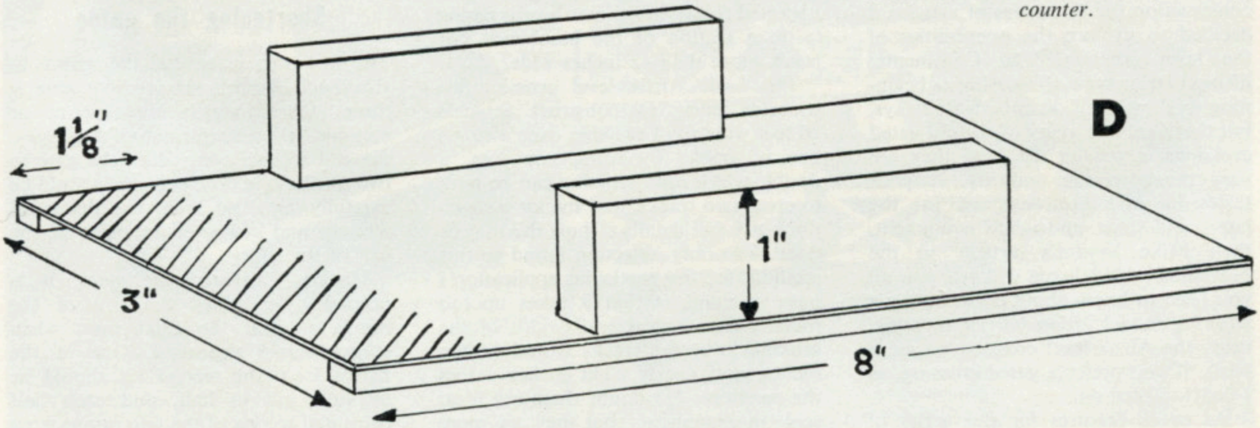
With the unit fitted you can ignore the numbers if you want to and just let someone operate the switch to warn competitors of the last lap. If you prefer an audible rather than visual signal, the lamp is replaced by a bell or buzzer—some quite small ones are obtainable. The base will naturally need enlarging to accommodate the buzzer unit. Of course, the device described here could be incorporated with the starter unit described in my last article, in which case the starter's rostrum made to a suitable size would form the box for all the electrical components.

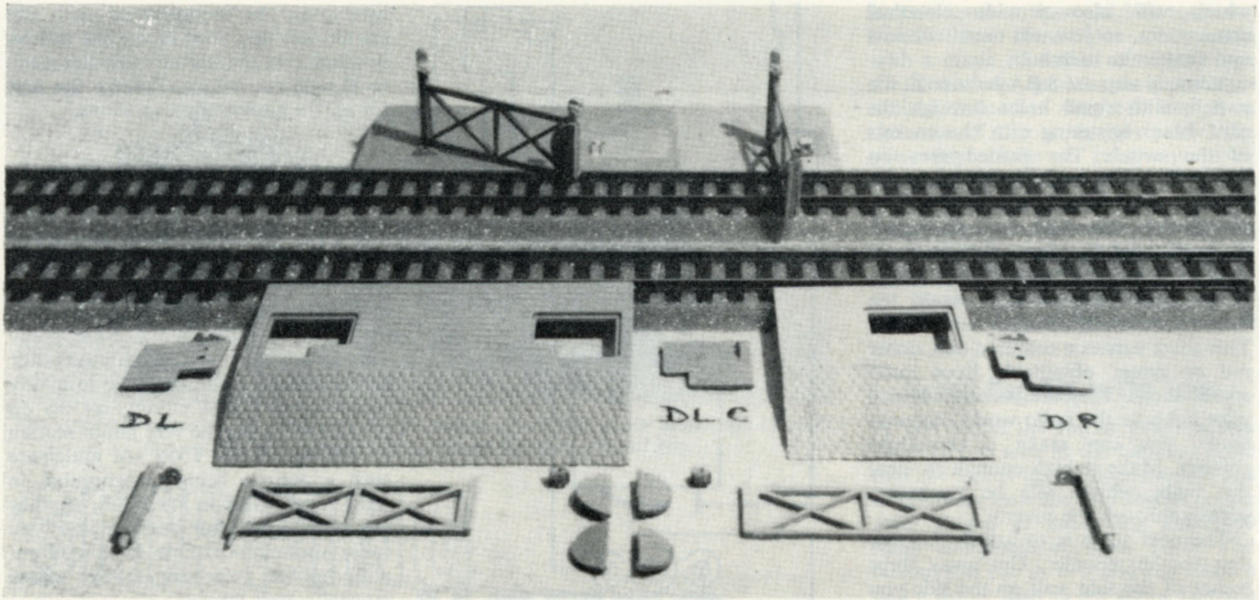
Jumping to it

If you want to depart from prototype practice and indulge in some 'stock car' racing, then the new Airfix jump section will provide the excitement. The cars and the small man inside will certainly get their suspension tested, and woe betide any badly cemented joint. I would suggest that this accessory is incorporated in a very simple ungarnished circuit, set up on the hearthrug for the very junior section of the household. I do not anticipate such a feature being incorporated in next year's Grands Prix! But, as they say, you pays your money, and you takes your choice. One thing's sure—with hobbies you can always please yourself—well nearly!

With this appearing in the January issue, I must make mention of the Racing Car Show, which is being held at Olympia from January 22-30. You will certainly find plenty of interest in the full-size scene, with all the up-to-date speed mods. Also you will be able to try your hand at miniature hill-climbing—with awards for the best times in each class. We shall not mind how many attempts you make, but I can tell you that it is not an easy climb—I built it with the intention of it being difficult! The times will be very accurately recorded electronically. There will be four classes of car to choose from—so with a bit of luck you'll be able to compete with a model of the prototype of your own particular fancy.

Basic construction and dimensional details of the unit which houses the completed signalling system. The shaded area is cemented to the underside of the lap counter.





Component parts of one side of the modified crossing. The lettered references indicate the type of location plate used, based on the identification marks in the standard Airfix kit and instruction sheet.

BASIC RAILWAY MODELLING—by Norman Simmons

Double track level crossing

Fifth of a regular bi-monthly series catering specially for newcomers to model railways

ON finding the need for a road to cross the double track main line on the model railway I have under construction for this series of articles, I decided to explore the possibilities of the level crossing. The Continental lifting barrier type of crossing is beginning to show itself on British Railways, but there are still many of the old gated crossings in regular use, and they are very much in the majority. If your tastes in model railways are for the latest and most up-to-date equipment, then Mike Bryant's article in the November, 1963, issue will tell you all you need to know about constructing a working model lifting barrier crossing, using the Airfix level crossing kit as a basis. If you prefer a gated crossing, as I do, then read on.

As in all features for this series of articles, I am conscious of the necessity for conserving space. My own spare space is limited, and the point at which I wanted to install my own level crossing is on a section of the baseboard not much more than 12 inches wide.

The basic Airfix level crossing kit contains parts to construct a scale 20 feet wide road crossing over a single line of track. By using two kits, a double-width road crossing can be built to cross two tracks, and the kit instructions give full details of how this may be done. The only objection I find to this method, for the particular application I have in mind, is that it takes up too much room. The overall width of the crossing over the tracks would be ten inches, and nearly eight inches across the roadway. No doubt these are ideal scale measurements, but they are more than I can accept in the space available.

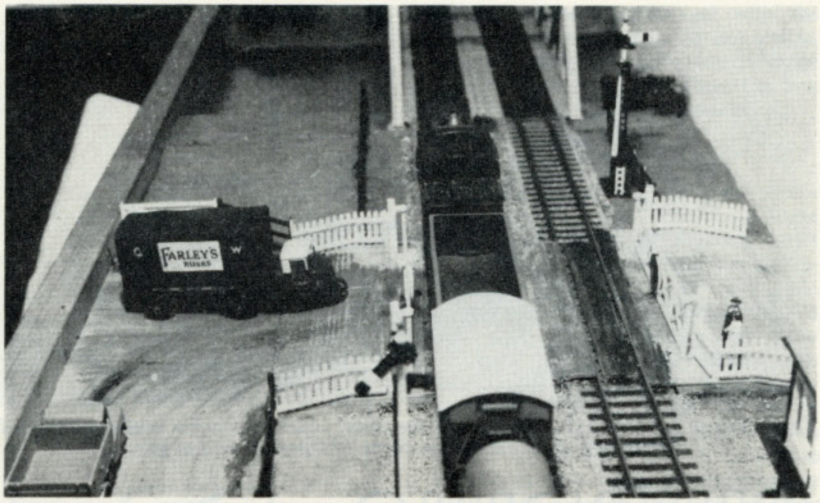
It is, of course, possible to adapt a single kit to span double track but using only one pair of gates. Unfortunately, this means that the gates do not meet across the track, and the road is not effectively guarded when the gates are closed to rail traffic.

However, provided that your double tracks are not more than two inches apart centre to centre (which is what they should be), it is possible, by using two kits and reducing the size of the gates, to build a double track level crossing with two pairs of gates that meet both ways in a space not more than eight inches by six inches, thus largely overcoming the space problem.

Shortening the gates

The first step is to cut the gates to size. Each Airfix level crossing gate is three inches long in three spans or sections. It is a simple matter to remove the end section and reduce the gate to two inches long. The end post should be carefully removed from the discarded section, and cemented in place at the end of the gate.

Having shortened the gates, it is necessary to adjust the size of the ramps so that the gates meet when swung across the road. One of the ramps from the second kit should be carefully cut in half, and each half cemented to one of the two ramps from



Completed crossing closed to road traffic, with a goods train heading for the double-span girder bridge — construction of which was described in the November 1964 *issue.*

the first kit. Location plates DL and DR (see picture) should be cemented in place in the corners. You will now find that the shortened gates are just the right length to meet across the roadway.

Now you need to check the measurement across the track. If your double track is two inches apart, you will need to cut approximately $\frac{3}{16}$ inches from the side of each ramp where it butts up against the rail. Check this measurement thoroughly by holding the ramp in place and swinging the gates across the track, making sure that they meet.

The location plate holes in the centre of the roadway should be filled in by location plates DLC and DRC (see picture). Carefully cut off the location sockets from each of the plates and cut off two more sockets from spare plates. These four sockets should then be cemented to the ramp decks in such a position that they hold the gates in the closed-to-road-traffic position.

Swinging squarely

To complete the gates, the warning disc halves and lamps must be cemented in place. The tabs on the back of the warning discs will need to be removed before this can be done. The gates can now be painted—white with red discs—and, when dry, hung in position with the hinged gate posts. Make sure the gates swing freely and that the gate posts are exactly vertical.

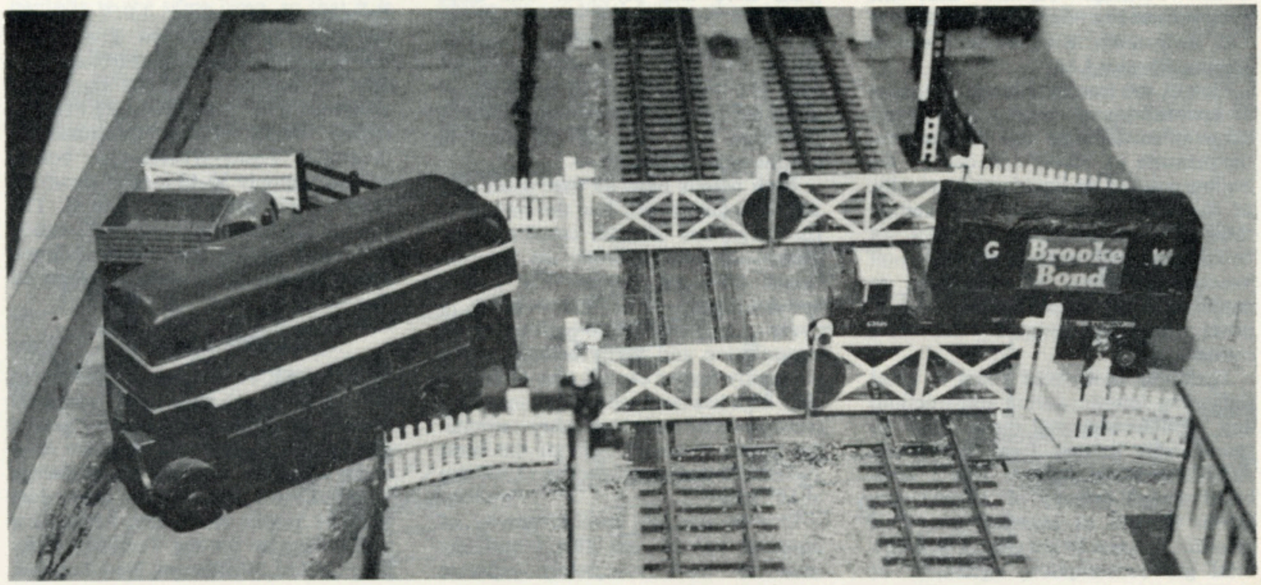
The ramp sides should be reduced in length by $\frac{3}{16}$ inch and cemented in place. If your track is laid in foam ballast strip you will probably need to cut more than $\frac{3}{16}$ inch, but this is best decided by trial and error. The track spacers laid between the running rails and the distance piece laid between the two tracks are also made from one and a half lengths, to match the ramps. The distance piece has also to be reduced in width. No exact measurement can be quoted; depends on track spacing.

The ramps, track spacers and distance piece can now be stuck in place. I found that polystyrene cement would not adhere to the sleepers of Graham Farish track which I use, but Evo-Stick does the job well.

To finish off the crossing, it is essential to instal a signal cabin and two protective home signals. In the photographs on these pages the signals have been assembled from one of Ratio's excellent GWR signal kits.

Fencing at the sides of the ramps is from the Airfix platform fittings kit. The ramp fences are sloped at exactly the right angle but they should, of course, be cut to size. The roadway was made from cardboard, painted matt grey and streaked with black, while the grass is the usual medical lint dyed in olive green. The finished level crossing makes a very attractive item.

The crossing open to road traffic. During construction, it is important to check the measurement across the track to ensure that the gates meet when closed to rail traffic.



The METHANE PRINCESS (12,200 *tons dw*), *the vessel which only a few weeks ago carried the world's first commercial cargo of liquefied natural gas.*

SHIPPING NOTES

by A. J. Day

ONE of the most interesting ships that it has been my privilege to set foot in is the *Methane Princess*, the vessel which, last October, brought the first cargo of Algerian liquefied gas to Britain for the Gas Council. She and her sister-ship, *Methane Progress*, are the first commercial methane tankers in the world. The *Princess* was built by Vickers-Armstrongs (Shipbuilders) Ltd, Barrow-in-Furness, and is owned by Conch Methane Tankers Ltd; the *Progress* was built by Harland and Wolff Ltd, Belfast, and is owned by Methane Tanker Finance Ltd.

One of the reasons I found the ships so interesting was that they carry their cargo of methane to this country at a temperature of minus 258 deg F, the boiling point of the liquid gas. Naturally, at this temperature there is a certain 'boil-off' from the liquid. In order not to lose this to atmosphere, the boiled-off vapours are piped aft and used to supplement the ships' boilers' fuel in novel specially-designed dual-fuel burners.

Each ship cost about £4¾m to build (including interest during construction) and together they will make about 60 round trips a year from the North African coast to Britain, with a combined annual delivery of 700,000 tons (354m therms) of liquefied gas. This amounts to some 10 per cent of Britain's total gas consumption, equivalent in energy to 1.3m tons of coal. Liquefaction reduces the gas to approximately one-sixhundredth of its original volume.

The intense cold of the liquefied gas would cause normal steel to turn brittle and crack under stress, so the liquid in each ship is contained in nine tanks of special aluminium alloy. Each tank is free to expand and contract with temperature changes and is heavily insulated by a sheathing of balsa wood, glass fibre and plywood. The ships may thus be compared with enormous and very complex floating 'Thermos' flasks. The control rooms, which can read the temperatures at hundreds of given points throughout the ships at any one time, look like the last word in marine automation.

Both vessels have all machinery and accommodation aft, but the nature of the cargo has dictated certain fundamental differences from the conventional crude oil carrier. The service speed is higher—at 17¼ knots—partly in order to minimise cargo losses through vaporisation and partly because of the inherently higher capital cost of such a ship. This has been achieved by installing more powerful main machinery—reversible geared steam turbines of the latest Pametrada design developing 12,500 shp at 107 rpm.

Due to the low specific gravity of liquefied natural gas (0.42) and the need to have completely separate ballast spaces, these 12,200 tons dw vessels have dimensions comparable with a crude oil tanker of 28,000 tons dw. Since the gas cargo is volume-limited, instead of weight-limited as in the case of the crude oil tanker, the new ships have a relatively lower draught and high freeboard.

The main particulars of the ships are length oa, 618 ft; length bp, 575 ft; breadth, 81 ft 6 in; depth 58 ft 6 in; and draught, 26 ft. Both vessels are operated by Shell Tankers (UK) Ltd, under the British flag, each with a crew of about 55.

Israeli flagship in the news

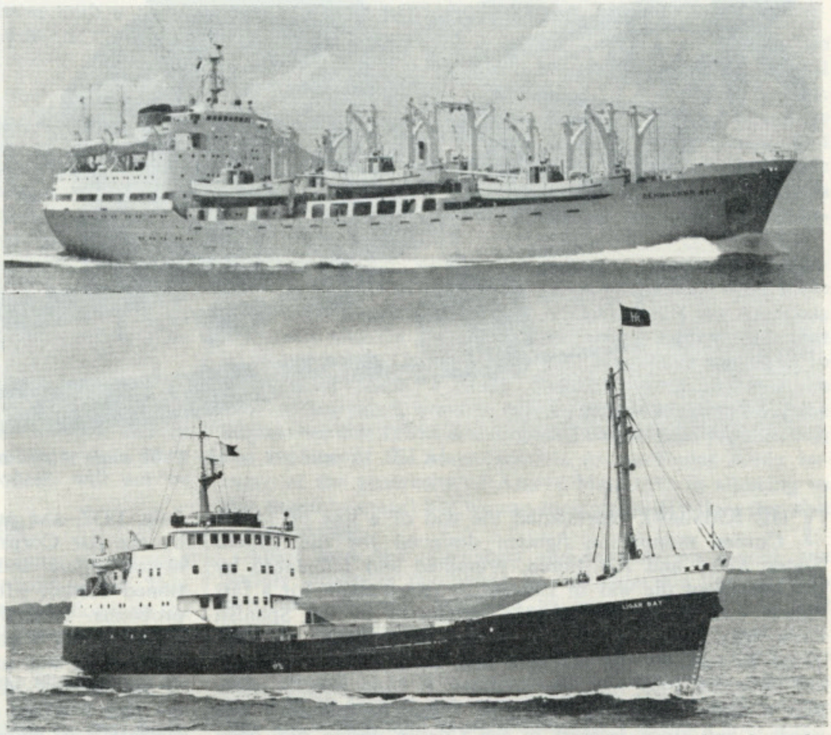
TOWARDS the end of 1964, readers will have seen in the national Press that the Israeli luxury liner *Shalom* was in collision with the Norwegian tanker *Stolt Dagali* in heavy fog about 40 miles south-east of New York. The tanker was cut in two and the *Shalom* had a heavy gash in her bows, running 45 ft on either side and about 4 ft high. The *Shalom* is the flagship of the Israel merchant fleet. She was built in France by the Chantiers de l'Atlantique (Penhöet-Loire), St Nazaire, for the Zim Israel Navigation Co Ltd, Haifa, and went into service early in 1964. She has ten decks, a length oa of 629 ft, a moulded breadth of 81 ft 5 in, and a depth to the upper deck of 57 ft 10 in. The hull, which is extensively welded, is divided into 14 compartments by 13 watertight bulkheads. There are twin funnels abreast well aft of amidships, while the superstructure, which is relatively high, extends a long way forward.

Accommodation is provided for 1,086 passengers, of whom 1,018 can be carried in the tourist class. The vessel's two sets of Parsons steam turbines, each with an output of 12,500 shp, were constructed in the shipbuilder's Penhöet engine works. Three automatically-controlled Foster-Wheeler-type boilers can each supply 30-42 tons of steam an hour at 625 psi and 505 deg C. The *Shalom* can reach a speed of 22 knots, but while plying the North Atlantic route she usually travels at about 20 knots.

Cement carrier

BECAUSE of the tendency today to build more and more specialist vessels, specialist cargo-handling gear is also coming into its own. A recent illustration of this was the diesel-electric vessel *Ligar Bay* (1,426 tons dw), built by Henry Robb Ltd, Leith, as a cement carrier for the Tarakohe Shipping Co Ltd, Wellington, New Zealand, for distributing cement from the Golden Bay Cement Works, associates of the Associated Portland Cement Manufacturers Ltd. The ship was fitted with the very latest equipment for the loading and discharging of bulk cargoes of cement, and before leaving for the Antipodes carried out handling trials at the Associated Portland Cement works in Kent. The main particulars of the *Ligar Bay* are: length oa, 226 ft 10½ in; moulded breadth, 38 ft; moulded depth, 16 ft; and cement cargo capacity, 1,200 tons. The vessel is of all-welded construction and is framed longitudinally in the double bottom and under deck, the former being specially designed to carry airslides for fluidising the cargo.

Special care has been taken in arriving at the capacities and positioning of the tanks to ensure suitable ballasting and trimming conditions when the ship is loading and discharging. The cargo-handling system is arranged to load up to 550 tons per hour through three points using telescopic chutes on the existing loading installation at the owner's cement works. The rate of unloading is designed to cover a wide range of discharging distances over a maximum 1,500 ft, including a lift of about 60 ft. The necessary air for conveying the cement from ship to shore silos is provided by two electrically-driven compressors.



Top: *A new Russian tuna factory ship, the* LENINSKIJ LUCH (3,005 *tons dw*), *first of a series of five building for Russia in Japan.* **Above:** *The* LIGAR BAY (1,426 *tons dw*) *a cement carrier for New Zealand built by Henry Robb Ltd, Leith.*

Soviet tuna factory ship

THE Hitachi Shipbuilding and Engineering Co Ltd, Mukaishima, Japan, have completed the first of five tuna factory ships ordered by V/O Sudoimport, Moscow. Named the *Leninskij Luch* (3,005 tons dw), she is designed to operate in the company of several other tuna ships. She is a large-size vessel with six 16m catcher boats on board, and is intended to remain at sea for 120 days and conduct fishing operations for 90 days. She has a length oa of 377 ft 4 in, a moulded breadth of 57 ft 1 in and a moulded depth of 28 ft 11 in. The *Leninskij Luch* has facilities for processing the catch, canning, quick-freezing, fishmeal production and for extracting liver oil.

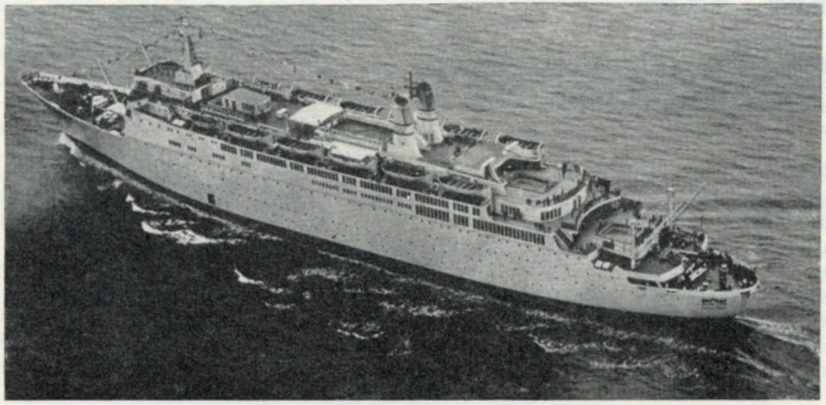
Commando ship commissions

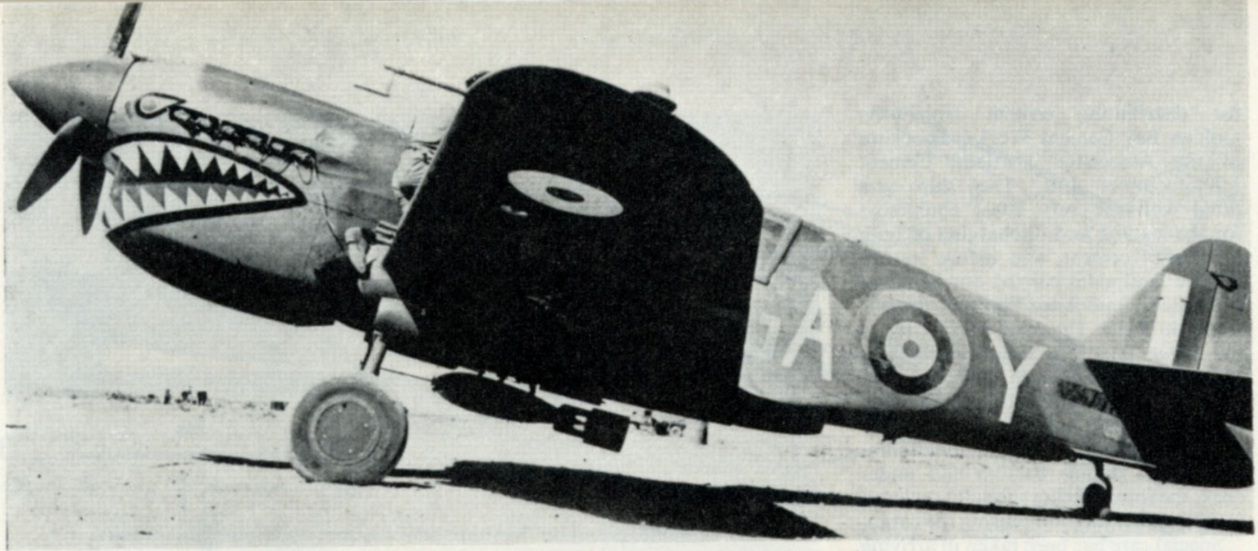
AFTER a long refit at Portsmouth—the first since she was converted into a commando ship in 1962—HMS *Albion* commissioned for service in November. During her refit a great deal of work was undertaken to make her more efficient in the commando rôle. The accommodation has been extended to permit the ship to carry a larger Commando unit. HMS *Albion* is embarking No 848 Royal Naval Air Squadron for her commission. This squadron is equipped with Wessex Mark 5 helicopters, which have a better performance in the troop-carrying rôle than earlier Naval helicopters. The ship is to sail for the Far East for operational service should the need arise.

Another ship to commission after refit, in HM Dockyard, Devonport, was HMS *Iveston*—as a coastal minehunter. She joined the First Minehunting Squadron last month and is based at Port Edgar in the Firth of Forth.

The second of three new Fleet replenishment tankers for the Royal Fleet Auxiliary Service was launched a few weeks ago from the Tyne shipyards of the Swan, Hunter Group. She was named HMS *Oleander*. The ship has been designed to carry a mixed cargo of fuel and is fitted with modern handling gear for transfer by jackstay and derricks.

The flagship of the Israel Merchant Marine, the SHALOM (25,338 *tons gross*), *which was involved in a collision with a tanker towards the end of last year* 40 *miles south-east of New York.*





AK772, the subject of the 1:72 *scale Airfix model.*

PROFILE

The Kittyhawk and its predecessors

THE Kittyhawk represented the end of a line of 14,000 Curtiss monoplane fighters designed for the United States Army and Air Force, prompted and influenced by the lessons of the war in Europe. A requirement for a fast fighter was drawn up in 1935, generated by the Spanish Civil War. Seversky, Chance Vought and Curtiss all competed to produce the machine and, after some ill feeling, the Seversky P-35 won the contract. It soon became clear that a more aggressive fighter of higher performance was needed, and since interest in the Curtiss design had been maintained, three examples of this, the YIP-36, were ordered, for it appeared likely that this machine—of more advanced conception than the P-35—might be suitable.

The Curtiss Hawk 75 thus evolved, but its top speed proved still to be below the 300 mph set as a target. Curtiss then looked for a new power plant for the aircraft, and decided to incorporate an Allison V-1710-11 in-line in place of the conventional radial, hallmark of US fighters of this period. It was felt that this engine of greater power would offer a cleaner design with less frontal area and therefore better speed prospects. A prototype was ordered of the XP-37, 37-375, during February, 1937, and it was from this that the Kittyhawk was eventually to evolve.

Before this happened, there was much to be achieved by Curtiss. July, 1937, saw an order for 210 P-36A Hawk fighters (38-1 to 210), the largest as yet placed for an American fighter. Its comfort led to an assortment of modified forms of the P-36 and, most important, aroused interest abroad—particularly in France, where the state of the nation's air force left nothing to boast of. P-36s had just reached the USAAC when France ordered an initial batch of 100 Curtiss Hawk 75 A-1s.

The Allison-engined XP-37 prototype was delivered in July, 1937, and proved to be the fastest aircraft yet tested by the Air Corps. Its radiator fitted into the fuselage aft of the engine, and the cockpit had accordingly to be positioned further aft than on the P-36. This brought many problems. Nevertheless, a 340 mph top speed led to an order for 13 slightly modified YP-37s. Clearly the engine installation was unsatisfactory, so a new layout was fitted to the tenth P-36A, the radiator now being placed under the rear fuselage and the cockpit set forward again. This aircraft was known as the Curtiss H-81, or XP-40, and first flew in October, 1938. Later the radiator was installed in a neat casing below the engine, and the supercharger intake was sited above the nose. From this design stemmed the P-40 Tomahawk.

P-36A production was now underway, delivery beginning in April, 1938, and ending with the delivery of the 177th aircraft. Then came a change, for 33 aircraft were now fitted with wing guns and redesignated P-36C. The earlier machines had the feeble armament of a .300 inch and a .50 inch gun on top of the fuselage. Overseas orders mounted, and deliveries to France began at the end of 1938. They had totalled 291 by the time France fell in 1940. The Hawks gave a good account of themselves, and 200 or so survivors somehow escaped by various routes at various times to Britain. Here they were renamed Mohawk I or II, depending upon equipment. Sixty-five, AR630-694, under French contract awaiting delivery, were also taken over as Mk III (Pratt and Whitney GR-1830) or Mk IV (Wright Cyclone GR-1820) Mohawks. Some of the early aircraft were brought up to the standards of these versions, but the performance of them all was disappointing, and the RAF could find no use for them operationally in Europe. Many were sold to South Africa and to Portugal, and some were sent to the Far East, where they were issued to Nos 5 and 155 Sqns.

BS798 was coded DG:B when with 155 Sqn. She was a Mk IV, and BT470-DG-F was taken over as a Mk IV from France. Both served with the squadron at Imphal in 1943.

Such Mohawks as remained in Britain flew mainly at Farnborough and Boscombe Down, and the Air Fighting Development Unit at Duxford. Both used at the latter station in 1941 had brown and green camouflage with, somewhat surprisingly, silver undersurfaces. A training school for Belgian pilots was established at Odiham, and this used Mohawks. Several, including AR630, were used by No 61 OTU, and AR633, based at Hendon, flew with No 510 Sqn on communications duties. These aircraft used after the summer of 1941 had adopted the standard grey-green-grey finish of home-based fighters.

Curtiss were now devoting their full attention to the XP-40 and derivatives. France had ordered production examples of this type, and Britain contracted for 140 (AH741-880) and accepted some of those intended for France. They had two .50 inch guns on the fuselage top and two .303 inch wing guns. Their top speed was 320 mph. These aircraft trickled into Britain in the closing weeks of 1940, large-scale deliveries beginning in February, 1941. The RAF named this version Tomahawk I.

Increased armament was featured by the Hawk 81A-2 P-40B or Tomahawk IIAs, AH881-990, which had four .300 inch wing guns. Sixty-two of the P-40Bs delivered to the USAAC were destroyed at Pearl Harbour. One hundred were set aside from the RAF order for the American Volunteer Group operating in China, drawn from batches of Tomahawk IIB which featured modifications to equipment. The IIBs carried the serial numbers AH991-999, AK100-570, AM370-519 and AN218-517. Almost two-thirds of the final batches were passed to the Russians, and many of the later batch of aircraft served in the Middle East in ground straffing or medium-level fighting rôles. Poor performance and a tendency to ground loop on landing were unfortunate features of the aircraft, only too evident during tactical trials and squadron service.

Initially, the Tomahawks had a dark green-dark earth-sky finish, as applied to AH863 for AFDU trials. She, in customary style, had a sky spinner and 18 inch rear fuselage band. Squadron letters on these aircraft were medium grey, as applied to AH848 as 'SP:Y' (SP ahead on either side) of 400 Sqn by April 18, 1941.

Because of their performance limitations, the Tomahawks of the RAF were placed in army co-operation squadrons where low-level performance was an important

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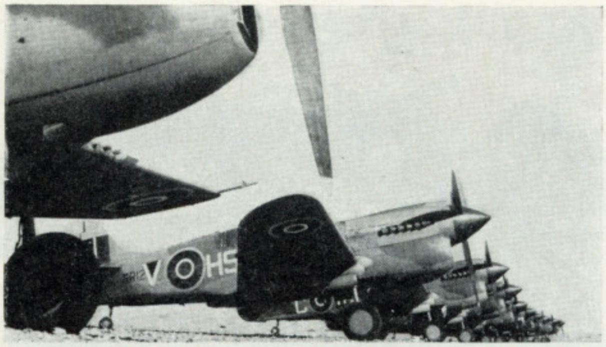
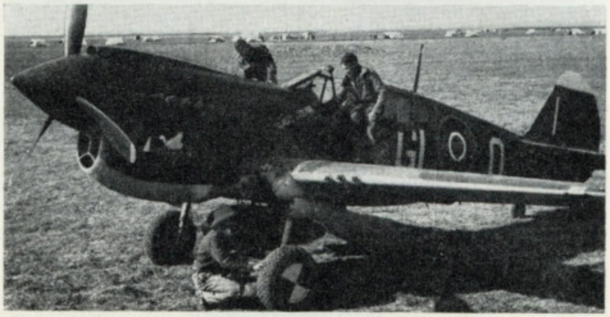
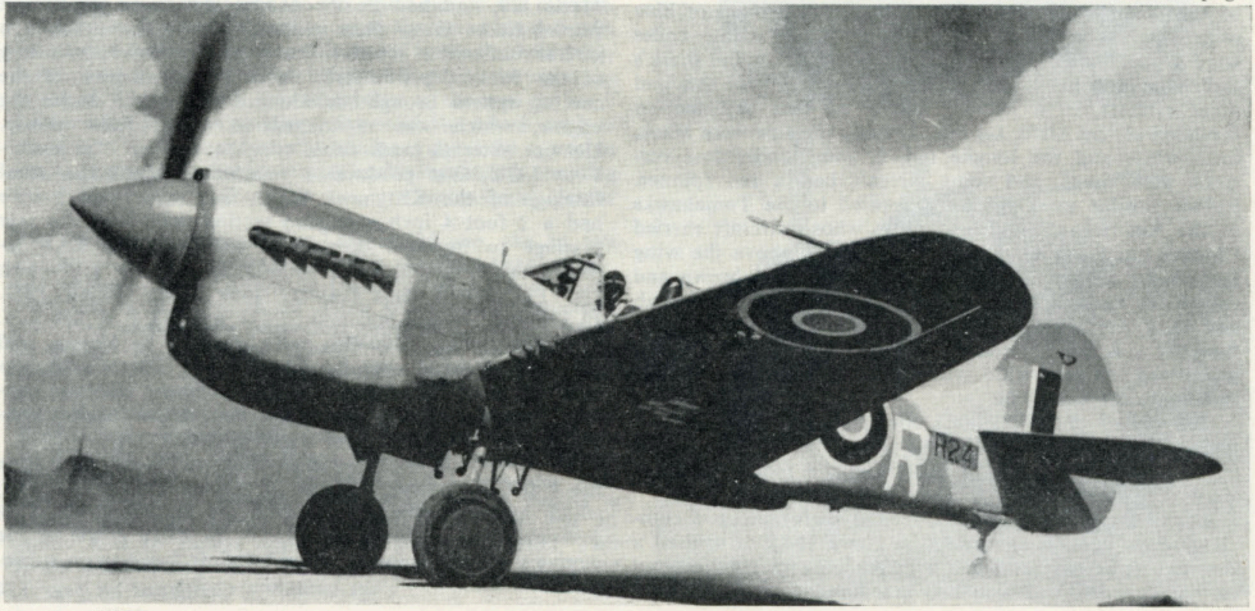
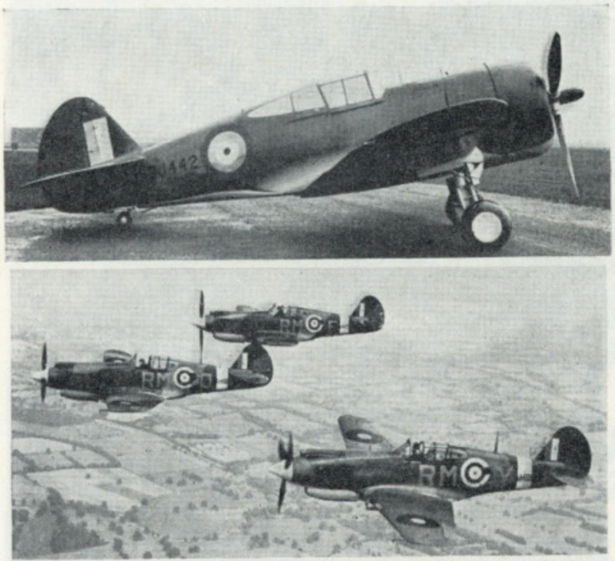




Top: *A line-up of Kittyhawk IIIs (P-40M) of 260 Sqn. FR12:V-HS has blue undersurfaces, but FL90:C-HS—the next aircraft along—has sky undersurfaces. Blue undersurfaced aircraft had a yellow outline to underwing roundels.* **Above:** *FR817 of No 5 SAAF Sqn in Italy.* **Below:** *A Kittyhawk III with revised fin fillet.*





Top: *Mohawk BJ442, a Mk IV aircraft.* **Above:** *A flight of Tomahawks of No 26 Sqn.*

PROFILE —*Continued*

consideration, and during 1941 and 1942 they replaced the Lysanders. Since they were later operated over France and the Low Countries on patrols, they were repainted in the grey-green-grey scheme applied to RAF fighters, but this did not come about until the summer months of 1942. One such aircraft was AH896:OE-B, in use on August 23, 1942, at Bottisham. HB:T-AH786 was another in use at this time at Snailwell, and operated by 239 Sqn. These aircraft had sky codes.

Tomahawks served in the Middle East with Nos 94, 112, 208, 250 and 260 Sqns and with Commonwealth squadrons, including No 3 RAAF and Nos 2 and 4 SAAF Sqns. No 112 received Tomahawks in September, 1941, and they were soon after coded GA. Many of them wore two-tone brown camouflage and azure blue undersurfaces, as typified by AK461:GA-A, whose codes were a very pale shade of grey. Not long after, the shark's teeth squadron marking was added to the nose of this and other aircraft, in a manner similar to that depicted on the label of the Airfix kit box. Usually the lips were black, teeth white and the tongue red, although individual versions were usual, and some aircraft had a red spinner. Rather similar markings were applied to the Tomahawks of the American Volunteer Group, whose aircraft carried Chinese international markings under and above the wing tips. Some of their Tomahawks wore the green-brown and sky of the early British aircraft, others had the olive drab and dark grey of US fighters. AK199 and AN334 were used by 208 Sqn in June, 1942, and, like AK461 aforementioned, carried wide white and yellow rings, etc, in their national markings.

Delivery of the 193 P-40Cs commenced in March, 1941, their serials being 41-13328-13520. These were distinguished by improved self-sealing petrol tanks and modified equipment.

In an attempt to improve all-round performance, a completely new version appeared, the Hawk H-87. It utilised a shorter engine unit and had a larger nose radiator, placed further forward, and also had a reduced frontal area. No fuselage guns were fitted, but four .50 inch guns were installed in the wings, whose shape remained unchanged from the P-36 days. A 500 lb bomb could be carried beneath the fuselage, or a long-range tank. The USAAF acquired 22 H-87-A2s, designated P-40D Warhawk, 40-359, 40-361 to 381, and delivery began in May, 1941. It was the RAF that became the principal operator, for 560 of these aircraft, AK571-AL230, were bought by Britain and named Kittyhawk 1. These began to be delivered in the late autumn of 1941, and were arriving until the summer of 1942. All but a handful went to the Middle East, where they were busily engaged in the North African campaign in 1942-43. AK772, the aircraft modelled by Airfix, was one of these which served between March and May, 1942, on 112 Sqn, until it was seriously damaged in battle. Another example was AK919:LD-B of 250 Sqn, in use late in 1942.

A few Kittyhawk 1s came to Britain for test purposes, and AK573 was used at Duxford in June, 1942. Her uppersurfaces were green and brown, and beneath she was painted sky. She had a sky spinner and rear fuselage band. Some of the Middle East aircraft adhered to this scheme, including some of the P-40Es of the USAAF. Serials of their P-40Es were 40-358, 40-382-681, 41-5305-5744, 41-3521-3599, 42-4776-5195 and 43-5874-6953. Interchanges of aircraft further multiplied the possible marking schemes, and Kittyhawks in North Africa were to be seen in British camouflage wearing British fin stripe, serial, codings and American star insignia, etc. P-40Es were supplied to the AVG in China, large numbers to Russia and some ex-RAF examples to Turkey. Examples used by RAF squadrons in the Middle East included AK738 of 94 Sqn early 1942, AK882 of 260 Sqn, AK636 possibly coded OK and of 450 Sqn, AL178 of No 3 RAAF Sqn and AK971 of No 2 SAAF Sqn. A further 1,500 Kittyhawks, ET100-999 and EV100-699, were set aside for Britain under Lend-Lease and, to distinguish them, they were called Mk IA aircraft. ET512, ex 41-25188, supplied to No 4 SAAF Sqn, was a typical aircraft.

The most important change in the development programme came when 40-326 was fitted with a Rolls-Royce Merlin 28, and became the Model H-87D or XP-40F. It proved to be faster than its predecessors, but production aircraft suffered a set-back due to extra weight and fitting of the Packard-built Merlin V-1650-1. A revision of the cooling system brought deletion of the intake above the engine, which was re-situated in the radiator scoop. Heavier external loads could now be carried. The P-40F-1 to 5-CU, first production versions, retained the usual fuselage of the Kittyhawk series, but subsequent P-40Fs had a 2 foot 4 inch extension section fitted into the rear fuselage to improve directional stability. The RAF received the P-40F with six .50 inch guns as the Kittyhawk 2A (FL219-368), and delivery took place during 1942. FL221 went to 260 Sqn and FL274 was HS:V of 260 Sqn. A further 100, FS400-499, were diverted to Russia, and others were taken over by the USAAF. The Mk 2A was received under Lend-Lease, examples being taken at random from the 1,311 produced for the USAAF as 41-13600-13695, 41-13697-14599 and 41-19733-20044.

The P-40G, H and J were development ideas, then came the P-40K Kittyhawk III, with an Allison V-1710-73 (F4R), which appeared concurrently with the II. The P-40K-1 to 5 aircraft had a short fuselage, but the extra power of the engine was compensated for by a longer fuselage on subse-

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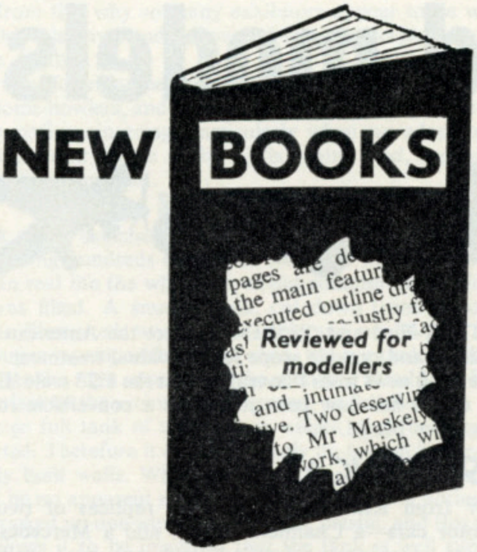
NEW BOOKS



German tanks

Die Deutschen Panzer, 1926-45, *by F. M. Von Senger und Etterlin. Published in Germany by J. F. Lehmanns, Verlag, and obtainable from W. E. Hersant Ltd,* 228 *Archway Road, Highgate, London, N6. Price* 78*s* 6*d (including UK postage).*

WITH a mere 365 days to go until Christmas 1965, military enthusiasts can start hinting (or saving) now for Senger und Etterlin's celebrated standard work on German armoured equipment from 1926-45, which has just been re-published in an enlarged and revised form after being out of print for many years.

In nearly 350 pages this splendid book illustrates and describes almost every tank, SP gun, armoured car or half-track ever designed for the Wehrmacht and includes captured equipment, together with the ambitious 'supertank' projects, terminated before completion by the German surrender. There are over 180 excellent photographs and 85 drawings, some of which, we might add, are not entirely accurate, although they do succeed in their purpose, which is to show the general arrangement. This minor criticism apart, it only remains to say that *Die Deutschen Panzer* is of absorbing interest—even though the text is in German—and despite its rather high price it does represent excellent value for the modeller who wants to know 'the lot'.

Third in a series

Bristol Aircraft Since 1910, *by C. H. Barnes. Published by Putnam and Co Ltd,* 42 *Great Russell Street, London, WC1. Price* 63*s.*

THIS third in a series covers the history of the Bristol Aeroplane Company, the other two volumes featuring Hawkers and de Havillands. It traces the development of the firm through the aircraft it produced, and includes such famous types as the Bristol Fighter, Bullfinch, Bulldog, Bombay, Blenheim, Beaufighter, Brabazon, Freighter and Britannia.

The book provides a complete reference to all the aircraft built by the company from 1910 onwards and, apart from some excellent photographs, has three-view drawings of each type and full specifications. The author is to be congratulated on producing yet another winner for Putnams. The text is both comprehensive and easy to read, and much of the narrative—especially where the aircraft attained operational or airline service—contains items from the recollections of pilots who flew the various types. A series of comprehensive appendices list the Bristol type numbers, sequence numbers, aircraft built but not of Bristol design, licence construction of Bristol aircraft and a bibliography.

Majestic machines

Showman's Engines, *by W. Pickles. Published by the Oakwood Press, Tandridge Lane, Lingfield, Surrey. Price* 6*s.*

STEAM traction engines formerly used in large numbers by fairground people were known as Showman's Engines. They fulfilled a dual function in towing the heavy trailers loaded with fairground equipment from site to site, and also acting as mobile generators to provide electric light and power for operating the fairground 'pieces'.

Mr Pickles' well illustrated booklet describes the different types in general terms, and also gives a brief history of their building and operation.

Review and preview

Aeromodeller Annual 1964-65, *compiled and edited by D. J. Laidlaw-Dickson and R. G. Moulton. Published by the Model Aeronautical Press Ltd,* 38 *Clarendon Road, Watford, Herts. Price* 10*s* 6*d.*

THIS annual is always a worthwhile buy at the turn of the year. It contains, in its usual exemplary manner, not only a review of the activities of model makers throughout the world, but plans and reviews of engines and airframes that can help the model maker in the coming 12 months.

This year, the plans section has grown in size and there is an excellent section on radio-controlled model aircraft. The indoor, outdoor, rubber, glider, power, control line, scale, racing combat and jet enthusiasts aren't forgotten either, and there is also an article about foam plastic construction.

Light tank locos

Contractors' Locomotive Album. *Published by The Oakwood Press, Tandridge Lane, Lingfield, Surrey. Price* 5*s.*

THIS booklet contains reproductions of 35 photographs of small tank locomotives, designed principally for working over light transient tracks on civil engineering construction works and in quarries and claypits, etc. The photographs cover a wide variety of types, both standard and narrow gauge, ranging from the more normal inside cylinder saddle tank to vertical boiler, fireless and steam-roller type geared locomotives.

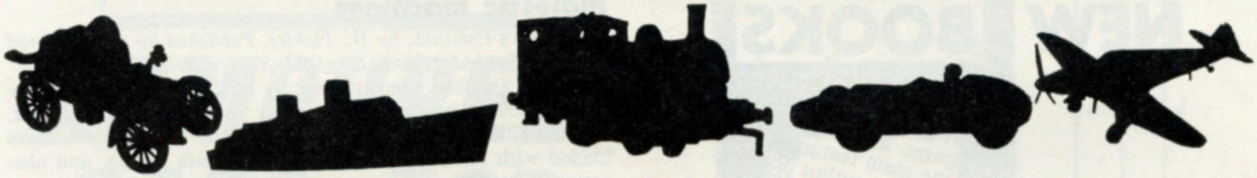
NEWS FROM AIRFIX — Continued

FM-2 Wildcat — the final production version — was the Wildcat VI of the British Fleet Air Arm. This aircraft stemmed from a design study begun by Grumman in 1936. Britain took over a French order for the early Wildcat when France fell, and one of these aircraft, renamed Martlet I, became the first US aircraft in British colours to shoot down a German aircraft—a Ju 88 over Scapa Flow on Christmas Day, 1940. Folding wing Martlets appeared in 1941, and from then on some version of the Wildcat design was in service with the Royal Navy until the end of the war. The Wildcat VI had a wingspan of 38 feet and a length of 28 feet 11 inches. The Airfix model is 4¼ inches long.

MOTOR RACING CATALOGUE

A NEW colour catalogue of the full range of Airfix Motor Racing equipment is now available from model shops, priced at 3d per copy.

New kits and models



PLASTIC SHEETING

TURN to any of the conversion articles in AIRFIX MAGAZINE and you will almost certainly find plastic card or styrene sheet mentioned again and again. We have many letters from puzzled modellers wanting to know where they can buy this essential plastic modelling material, and several sources of supply have been mentioned. Now, B. J. Ward Ltd, of 130 Westminster Bridge Road, London, SE1, have sent us samples of their top quality Polycard and transparent Model Glazing. In 10½ inch x 9 inch sheets and in three thicknesses, Polycard costs 2s 6d for a polythene packet containing one sheet of .04 inch thick card, two sheets of .025 inch card or four sheets of .01 inch card. The sheets can be cut easily with scissors, craft knife or fine toothed saw, cemented with ordinary polystyrene cement or scored and bent like cardboard.

Another interesting accessory is Ward's Model Glazing. This perfectly transparent material is sold in packets of six sheets, each 5 inches x 7 inches, costing 1s 6d. Both these products are available from most model shops or, if in difficulty, direct from B. J. Ward. *D.C.N.*

USEFUL PUBLICATIONS

BEATTIES of London, who control the well-known Southgate hobby shops, specialists in mail order, have just issued two 1965 catalogues which hold something of interest for both miniature motor racing and model railway enthusiasts. Covering the coming year's releases of sets and accessories, the 'Model Railway Catalogue, 1965' has over 80 pages and costs 2s, while its motor racing counterpart is priced at 6d and comprises 30 pages. Another handy publication is Beatties' free leaflet, 'Trains for Christmas', which (with the other two) is available from Southgate Hobbyshop, 5 Broadway, Southgate, London, N14. *D.C.N.*

NEW 1:32 SCALE CAR KITS

PLAYCRAFT TOYS have introduced a new range of Aurora 1:32 scale plastic car kits. They include the hot rod show trailer, a Ford Rolls 'Scat Cat', and a Model T 'Spyder' (all at 5s 11d each) and a Chevy custom pick-up (for towing the trailer), customised T-Bird, '32 Ford 'Skid-Doo', and a Corvette, all at 8s 11d each.

The T-Bird kit contains parts moulded in black, white and chrome, but all the other kits are in one colour without chrome. The illustrated instructions make all stages of the construction perfectly clear and include photographs of the finished models. The Chevy pick-up and show trailer kits would make the ideal transport for GP racing cars, and would be at home on an Airfix racing circuit where, of course, the 1:32 scale is exactly right. The T-Bird and 'Skid-Doo' reflect the American art of customising and provide scope for individual treatment.

More good news from Playcraft is that the 1:25 scale 'E' Type Jaguar coupé has now been joined by a convertible roadster version, price 14s 6d. *N.S.*

1909 REPLICAS

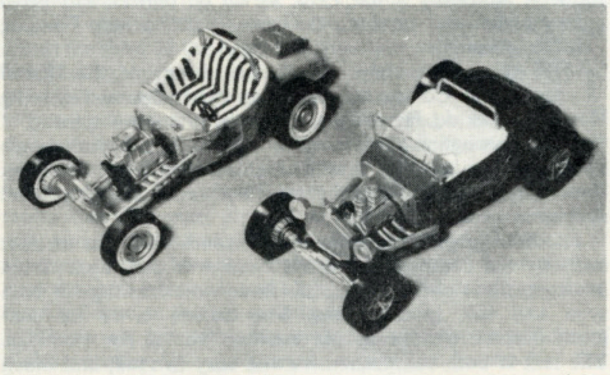
NEW from Rio of Italy are fine replicas of two 1909 motor cars—a Chalmers-Detroit and a Mercedes-Benz. Both are exquisitely detailed and are real collectors' pieces. They are available from Auto-Models and cost 37s 6d, plus 2s postage and packing. *D.C.N.*

MODEL VARIETY

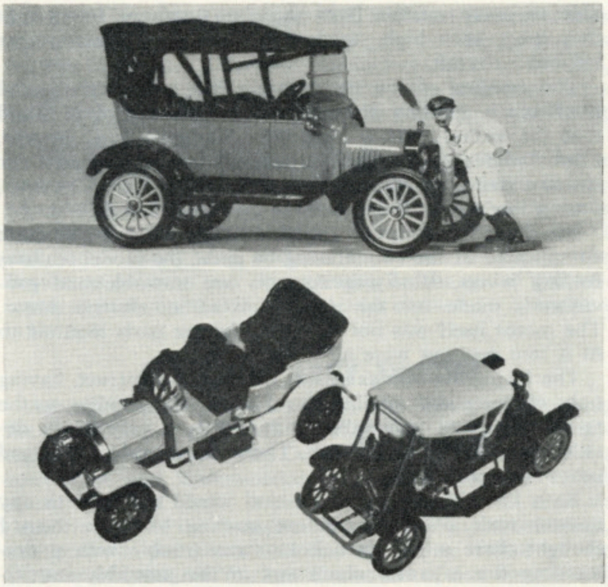
CORGI'S new selection of releases include a magnificent Simon Snorkel fire engine, a Mercedes 600 with working windscreen wipers, a further version of their well-known Model T Ford, an election-campaigning Land-Rover, a Mercedes 220SE, a Mini police van, and a racing 'E' Type Jaguar.

The fire engine is a basic Bedford 7½ ton chassis, mounting two articulated booms with a 'water gun' and cage fitted on the end. Two small wheels operate a complex rack and pinion extending and elevating mechanism. Also including a crew of six, roof beacons, a dummy pump, Glidamatic suspension and interior trim, the model is 9⅞ inches long and, with booms fully extended, is 14⅝ inches high. It costs 19s 11d.

As we announced in our November, 1964, issue, Corgi have been working on operating windscreen wipers for their model cars. A Mercedes 600 replica has now appeared fitted with them, and they work very well. Also featured are all-round suspension and 'chrome' trim and interior fittings. This 4¾ inches long, maroon-finished



Two of the new Aurora 1:32 scale car kits—the Model T 'Spyder' **(left)** *and Ford Rolls 'Scat Cat'.*



Top: *Corgi's face-lifted Classic series Model T Ford, complete with detachable hood and a new 'driver'.* **Above:** *New Rio models are* 1909 *versions of a Mercedes-Benz* (*left*) *and a Chalmers-Detroit.*

replica costs 8s 6d. Another of the Mercedes range to be released in Corgi model form is the 220SE coupé. With such extra features as opening boot, luggage and a spare wheel, this Merc is 4 inches long and sells for 4s 9d.

The election Land-Rover, a familiar sight in rural constituencies a few months ago, includes a candidate speaking into a microphone and a girl assistant handing out pamphlets. It is 3¼ inches long and costs 5s 9d. The dark-blue Mini police van is a handsome little model, and has opening doors, interior trim, a wireless aerial, a miniature police constable and a tracker dog. It sells at 5s 11d.

Finished in plated gold, with a detailed cockpit, driver, racing numbers and bonnet flash, the 'E' Type Jaguar is presented in a new guise. This racing Jag costs 5s 3d. Another already established Corgi model to be given a facelift is the Classic series Model T Ford. Now, for 8s 11d, you can buy the 'Flivver' brightly finished in powder-blue and yellow, and including a detachable hood and a miniature driver cranking the starting handle. *D.C.N.*

TANK DRAWINGS

FOUR sheets of scale drawings giving details of five famous British and German AFVs have just been published by Merberlen Ltd, makers of Bellona scenic accessories. Subjects are the British Mark 1 (1916), the 'Whippet' (1918), the German Pz Jager 'Elephant' (1943) and the Panzer 1 and Panzer Jager 1 of early World War 2 vintage, these last two being together on a single sheet. Scale adopted is 1:76 (4 mm to a foot) which is identical to that used for Airfix military models. As far as we can ascertain, this is the first time that tank drawings to this scale have been made available, and as such they will be very useful for those modellers who wish to scratch-build miniature tanks to augment their kit-built equipment.

Notes and technical details are given on the reverse side of each sheet, together with brief constructional suggestions for modellers which state—where appropriate—which Airfix kit parts can be utilised for making the model. Thus in the Pz 1, for example, Airfix Carrier wheels and track are recommended. The rest has to be made from wood or card!

Each sheet measures approximately nine inches by six inches, and holes are punched in the margins enabling the drawings to be kept in a loose-leaf binder if desired. Further sheets are promised at intervals, so that it will be possible to build up a complete file of AFV information, in addition to using the drawings for scratch modelling.

Cost of each single sheet is 1s 6d, but the whole set can be purchased together for 4s 6d, representing a substantial saving. Postage is free in UK. The drawings are available from Merberlen Ltd, Badgers Mead, Hawthorn Hill, Nr Bracknell, Berks. *C.O.E.*

EXTRA MARKINGS

A USEFUL set of transfers from a hitherto-unknown American company called Stein Assoc Aircraft Decals, is being handled by BMW Models, of Wimbledon. Priced at 3s 6d in the UK, these transfers are for use with 1:48 scale models of the Messerschmitt Bf 109E, P-51 Mustang and Spitfire. Four variations are given with the Me 109, plus General Adolf Galland's personal insignia. The P-51 has transfers for a 'D' of the 383rd Fighter Squadron, another for the 77th Fighter Squadron and markings for a P-51B, 'Le II'. The Spitfire insignia contains markings for three 'presentation' aircraft, Cape Town, Kuwait and East India.

I found the markings themselves well printed and accurate. The idea of providing additional markings in a kit has, of course, been a subject of much discussion over the years, and it is pleasing to see that someone is at least prepared to try this venture commercially. The markings are obviously to be used in association with those supplied with the kit, but in the case of the Spitfire I think that squadron code letters and serial numbers should have been supplied, too. The codes aren't too difficult to paint on in 1:48 scale, but I'd hate to have to do the serials as well! *A.W.H.*

LATEST CATALOGUE

BMW MODELS, of Wimbledon, have produced another improved edition of their illustrated catalogue of all the many makes of proprietary model railway equipment, British and foreign, which they can supply. The products of more than 35 firms are listed in 128 pages and, although it is admitted that it is impossible to list every item stocked, the catalogue is a most useful guide to a very comprehensive range. The catalogue costs 4s 6d, but to buy individual catalogues for all the firms listed would cost more than 30s, so this represents a saving of 25s. *N.S.*

STARTER SET

IT can be a bewildering and expensive business starting off on the model railway hobby. One solution, and the perfect introduction to the extensive Hornby-Dublo two-rail electric system, is a new Hornby ready-to-run set. It includes an electrically-driven four-wheel diesel locomotive, two wagons, brake van, circle of track, power unit and controller plus all necessary wiring.

The track, wheel standards and couplings are all uniform

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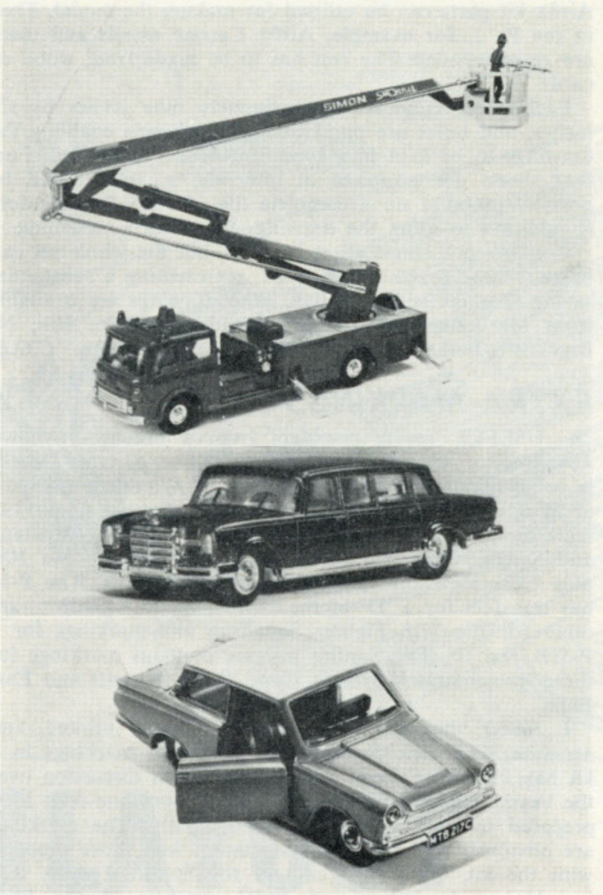


Top to bottom: *Corgi's magnificent fully-working Simon Snorkel fire engine; Corgi Mercedes* 600, *with working windscreen wipers; and Dinky Toys' version of the* 1965 *Cortina.*

New kits and models — *Continued*

with other Hornby-Dublo equipment and can form the basis of an extended layout. By using Hornby-Dublo track packs, larger and more exciting layouts are possible. This is a practical and well-made train set which would make an ideal Christmas present for many youngsters, and costs £4 5s. *N.S.*

UP-TO-DATE CORTINA

LATEST model to join the Dinky Toys range brings the miniature motoring world right up-to-date. It is a 4 inch long, 6s 11d replica of a 1965 Ford Cortina. New features on this already popular model include a redesigned radiator grille, air vents behind the rear side windows and re-styling of the word 'Cortina' on the boot. The model also has opening doors, tip-up front seat backs, interior fittings, Prestomatic steering and four-wheel suspension. *D.C.N.*

MORE KITS FROM JAPAN

TWO more Japanese model aircraft, supplied by BMW Models, of Wimbledon for review, come from the Marusan company. This is the first time that we have been able to make models from this firm, and we found that they were of a high standard, though they depict rather 'off-beat' aircraft.

The smaller of the two models had me guessing, and after much hunting through reference material I found that the aircraft was a Mitsubishi Karigane I—a pre-war, fixed undercarriage, Japanese aircraft which was used for reconnaissance purposes. The other was better known, during the war at least, as 'Jake', or the Aichi E13A1.

The latter, as its price of 18s 6d suggests, was the more complicated of the two. Having 84 parts, the model features folding wings, all flying controls are movable and provision is made for the installation of an electric motor. The motor itself was not supplied, but the parts required to fit it into position were all there.

The kit of the Karigane was simpler to construct, having only 48 parts and retailing for 12s 6d. The cowling to the radial engine is removable and reveals a very finely detailed mechanism underneath. There are movable flaps and other control surfaces.

Both kits are to 1:50 scale, and would add well to any quarter scale collection. Before starting work on them I thought there might have been some trouble with understanding the Japanese characters in the assembly instructions, but the illustrations are reasonably clear and I made no serious mistakes. Care should, however, be taken in putting together the 'Jake', as you could go astray. *A.W.H.*

PROFILE — *Continued*

quent variants—which again reduced the performance. FL710, the first of the RAF's, was delivered in September, 1942, and the remainder, FL711-730, FL875-905, FR779-872, FR111-140, FR210-361, FR385-392 and FR412-521 (ex P40K) were sent to the Middle East during the next 12 months. The first 21 were F-40Ks with fin fillets, but most of the remainder materialised as P-40Ms with longer fuselage. They also had a V-1710-81 (F20R) engine, better suited for higher altitude fighting. A small cooling grille, fitted immediately ahead of the exhaust stack, characterised them. FR358 was HS:B of 260 Sqn (HS ahead), FR243:LD-1 of 250 Sqn, FR304:LD-W of 250 Sqn, FL886:GA-K of 112 Sqn in 1943, FR872:GA-P and FR817:GL-O of No 5 SAAF Sqn.

Finally there came the Kittyhawk IV, or P-40N, of which 1,977 were built for the USAAF. An Allison V-1710-99 (F26R) was fitted. These aircraft were delivered during the winter of 1943/44 and 588 went to the RAF (FR884-885, FS270-399, FT849-FT954, FX498-897) and were used mainly in the Far East, in part by Commonwealth squadrons. A handful were fighter bombers employed by Nos 112, 450 and 260 Sqns in Italy, eg FT921:GA-Z. Such other versions as were developed were not supplied to the RAF, and included the XP40Q with a bubble canopy.

Although the Tomahawks and Kittyhawks resembled each other in appearance, they differed much in detail. To produce the earlier versions requires more extensive modifications to the Airfix Kittyhawk than might be imagined. The wings, undercarriage and tail unit can be used for nearly all versions, but it would be best to model a new fuselage for all but the Kittyhawk variants. P-40D, F, K, M could utilise the fuselage from the kit, but slight refinements, such as modifications to the canopy shape, will need to be incorporated. In short, these are operations for the more experienced modeller—and so make a good challenge to us all. **M. J. F. Bowyer**

Letters to the Editor

Letters to the Editor can only be answered in the magazine. Readers whose letters are published each receive a free Airfix plastic construction kit of their choice. We are always pleased to receive your comments and pictures, which will be considered for publication. Submitted material and pictures can only be returned if accompanied by a stamped addressed envelope, and the Editor cannot accept responsibility for safe keeping of any such contributions, neither does he necessarily agree with comments expressed by correspondents in the letters column.

Gnats in detail

WITH reference to last October's most interesting Profile on the Gnat, I would like to add the following remarks and corrections to clarify and enlarge upon some of the points made.

Firstly, G-39-2 was the F 140 and not the F 141, which was the type number for the production Mk I aircraft for the MOS, Finnish and Indian Air Forces. No Gnat trainer has yet flown with rockets. Finnish Gnats are silver underneath. XK768 became G-39-3, then IE1059 not IE1064.

XN122 became IE1064 after completion of tropical trials. The first six Gnat T1 development aircraft did *not* have dummy long noses, XM696 was the only one to feature a dummy nose. XM697 and XM698 had production long noses because they were the only two development aircraft to be representative of production aircraft.

XM698 was 'Dressed Up' as a service aircraft for the 1961 SBAC Show only. The CFS crest was removed immediately after the show. The slipper tanks hold 60 not 62 gallons. XM698 wore 'Training yellow gloss' for the 1962 SBAC Show with dark blue, not black, serials, not to be confused with 'Primrose yellow gloss' which she wore for the 1962 Hanover Show. The aerobatic aircraft of 4 FTS are 'Yellow Polyurethane gloss', a primrose shade.

XM709, the first Gnat trainer to be delivered to the CFS, was flown to Little Rissington by S/Ldr L. M. Whittington and F/Lt D. Bryant, the Gnat Project Officer. The first Gnat trainer for 4 FTS, XP502 was delivered to Valley by S/Ldr L. M. Whittington. The next, XP506, was delivered by a 4 FTS pilot.

XP501 was the first Gnat T1 to feature the silver/flame dayglo paint scheme. Service aircraft prior to this were delivered in the silver/blaze dayglo. Note that XP500 has since been painted in the silver/flame scheme prior to delivery to 4 FTS.

The Airfix Gnat trainer has certainly been well worth waiting for and, apart from a few detail discrepancies, is a very good model. The 4 FTS Badge, however, is worn both sides of the fin.

P. Amos, Littlehampton, Sussex.

8th Army equipment

THE article in the December issue of AIRFIX MAGAZINE on modelling the 8th Army stated that the 6 pdr anti-tank gun was the province of the A/T Regts RA at the time of the battle of El Alamein. In fact, on September 1 the 1st Rifle Brigade, B Company, used four 6 pdr A/T guns in the battle of Alam El Halfa. On the eve of the battle of El Alamein, October 23, each motorised infantry battalion had 16 6 pdr A/T guns on strength.

I would recommend that any one building an 8th Army layout should obtain copies of Brigadier Michael Carver's books *Tobruk* and *El Alamein,* published by Batsford in the British Battle Series.

R. A. J. Crook, Fareham, Hants.

Our contributor C. O. Ellis, comments: 'Agreed that the 6 pdr was in service with some infantry units, as stated above, during the "second" Alamein, but it was not in universal *use at that time as an infantry A/T weapon. Infantry battalions changed their 2 pdrs for 6 pdrs as fast as supplies of the new weapon became available, this transition period stretching from about the time of Alamein until early spring,* 1943.'

Dragging is here

WE, members of Woodside Model Customising Club, would like to draw attention to the fact that drag racing and drag modelling, etc, is gaining an American-type foothold in this country. In fact, we would like to see Airfix introduce model hot-rods, dragsters, engines and anything we can use for customising. Given the engines, we would even build the dragsters, etc, around them!

There are not enough words of praise which we could use to express our feelings about the Airfix Ford Zodiac. We have personally chopped, channelled and sectioned this model until it looks like a real 'gasser'. One member has actually incorporated swivelling bucket seats, and this particular customiser was really made when he had to use an expensive 1 : 25 scale American engine.

The Austin-Healey Sprite kit is another of our favourites, as it can be made into many different types of car, eg, rally, hot rod, racing, etc. One modeller even added steering and fog lamps, made from the wheel discs.

We must conclude by pleading with Airfix to give us engines and possibly drag slicks.

Incidentally, we really 'dug' B. T. Jeeves' letter in the November issue.

Peter Attlê/John Robin, Maryhill, Glasgow.

Insect aside

FURTHER to Bowyer's and reader S. C. Smith's recent comments on insects in aircraft pitot tubes: in June 1945, I was the flight engineer of a Liberator PR V engaged on photographic-reconnaissance duties over Sumatra. During the return flight to Ceylon I had occasion to empty the contents of the two bomb-bay overload tanks into the main wing tanks. To satisfy myself that the bomb-bay fuel tanks were empty at the conclusion of the work, I removed the filler caps and looked inside.

This work was carried out at 12,000 feet and I thought no more about it until we were coming in to land. On passing through the bomb-bay I was astonished to find that the overload tanks had collapsed. Further examination revealed that insects had nested in the tank vent-tubes, completely blocking them, and that the difference in air pressure between 12,000 feet and ground-level had caused the collapse of the tanks.

In his Profile on the Catalina in the

Continued on next page

Letters to the Editor

Continued

December, 1964, issue, Mr Bowyer mentions that only 12 Catalina/Cansos Mk III/IIIA were set aside for Britain. It may be of interest to note that my squadron, No 160, handed over its Mk VI Liberators to No 321 (Dutch) Squadron, at China Bay, Ceylon, at the end of 1944. I well remember seeing amphibious Catalinas at China Bay in Dutch RAF markings at that time. The Dutchmen were in the process of converting from amphibious Catalinas to Liberators.

F. W. Cooper, Southampton.

Armoured cars

THE mudguards provided with the Airfix Sd Kfz 234/4 armoured car are of the wrong design, and it is also wrong to suggest that this vehicle might be painted in Western Desert colour. It did not come into service until 1944, and hence Airfix are incorrect in stating that these cars proved their worth in Europe in the first year of the war, and that they were later widely used in the Middle East.

Earlier eight-wheeled armoured cars, from which the Sd Kfz 234 series was developed, certainly *were* used in Europe in 1939-40, and also in North Africa. However, no version of the earlier vehicles was fitted with the long-barrelled 75 mm gun, and all had smaller road wheels than the Sd Kfz 234 series. In fact, the mudguards provided with the Airfix kit properly belong to this earlier series of cars.

The arrival of the Sheriff of Nottingham set was a predictable but nonetheless welcome addition to the range of Airfix figures—but what is King Richard doing amongst the Sheriff's evil Normans? Surely this figure should represent Prince John?

P. A. Hodges, Southsea, Hants.

Historic vehicles

WHAT is plastic modelling coming to? The Beatles! Dave Clark Five! What about Mickey Mouse, Donald Duck and Charlie Chaplin? Or a skin kit to go with the skeleton kit, motorised with a voice?

But, seriously, aren't some very worthwhile models too scarce? I refer to historic road vehicles. Ever since the magnificent 'B' type London bus I have been keenly hoping for that historic vehicle 'par excellence', the showman's traction engine. There are world-wide traction engine rallies and societies. At least one magazine is devoted to historic commercial vehicles. A die-cast miniature is on the market of a traction engine. Even a motion-picture has been made featuring an 'Iron Maiden', and you can buy a gramophone record of their sounds.

Chaps with lathes and able to devote years of time turn them out for every model engineering club exhibition, and one magnificent specimen is in the Science Museum. But no plastic kit! How can it be? I am convinced only Airfix can do it, but how long must we wait? Please let's have a road equivalent of the *Royal Sovereign*.

How many other readers will join me in yelling not only for a traction engine but also the ubiquitous steam roller, and many other veteran commercials?

C. Mulvagh, Nelson, New Zealand.

Best we can do this month is the 1:32 *scale* 1914 *Dennis fire engine—see page* 132.*—Ed.*

Dual control

SOME of your slot-racing readers may be interested in a method of competition I use when there is nobody available to race against. One of the hand controllers has the spring removed, which enables a car to be run in the 'race' without attention.

In order to avoid the pace car crashing at the bends it is slowed down automatically by sticking Sellotape over the contacts on the track at the approach to the corner. By careful adjustment of these strips, very fast lap speeds can be obtained. It takes all the driver's skill to keep up with the pace car as there is no human error involved in your opposition.

A. J. Reynolds, London, SE25.

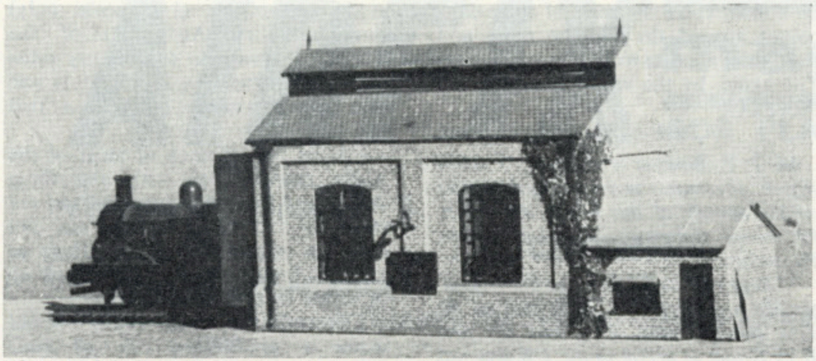
More gen on the Gnat

FELLOW aircraft modellers might like to record some information which I have collected on the RAF 'Yellow Jacks' Gnat T1 team from No 4 FTS, which performed at Little Rissington, Culdrose and Farnborough in 1964.

The picture in your November issue, showing the presentation to team-leader, Flight-Lieutenant Lee Jones, of Airfix models of the team, revealed that the replicas are not quite authentic. The Gnats in the display at Farnborough were not fitted with drop tanks. The aircraft are painted yellow overall, and do not have the black anti-dazzle panel on the nose.

The aerobatics were flown with five aircraft, with one reserve Gnat at Farnborough, and not nine aircraft as in the photo. For any modeller making up the team, I would point out that the yellow is not the same as the Humbrol colour, but is paler. The serial numbers are covered very well in the check list given in the October issue of *Air Pictorial*. As drop tanks are included in the Airfix kit, the best plan is to omit the inside or bottom part of the wings, fitting instead a balsa wood portion, sanded down to conform with the wing leading edge, then given a coat of clear dope and talcum powder, and finally sanded down. The original wing has the step for the drop tank, and holes

Reader R. J. Parkhouse, of Westbury-on-Trym, is a keen converter of Airfix aircraft kits. He sent us this picture of a selection, comprising a Heinkel 111*Z glider tug, a Spitfire IX floatplane, a Nakajima Rufe, a Spitfire VII, a slip wing Hurricane and a Ta* 152.



This modified Airfix engine shed was built and photographed by reader D. G. Potter, of Eastbourne. He added tile and brick paper to the roof and walls, and also built on a small shed, made from Airfix oddments.

for the rockets, and this is the easier way to overcome this problem.

In the Airfix kit instructions, the illustration shows the drop tanks silver; these should be dayglo red. The squadron badge is also on both sides of the tail-plane and not on one side only. I hope I have been of help to any modellers wishing to build accurate models of this fascinating little aircraft.

K. G. Thornburrow, Chesham, Bucks.

Cleaning canopies

MAY I suggest a way of removing paint from cockpit canopies. Rub the paint off the canopy with wet and dry paper, and then when all the paint is removed go over it with clear varnish. The surprising result is a canopy which is as clear as a bell.

There is one aircraft that I would particularly like to see in the Airfix 1:72 scale range. This is the B29 Superfortress. It would make a most impressive model for any collection. Perhaps the decal sheet could be for the colours of the history-making B29 'Enola Gay'.

May I take this opportunity to congratulate you on your excellent magazine. It's just right.

Philip A. Reeder, Hull, E Yorks.

Not painted black!

IN the July issue of AIRFIX MAGAZINE, the Aurora kit of the Sopwith Triplane was reviewed, and comment was made on the 'all black aircraft' used by No 10 Naval Squadron. To assist readers who may be about to construct this kit, and who are not aware of the correct colour scheme to use, I hasten to give this advice. Naval Triplanes were definitely not painted black!

Recently, I had occasion to correspond with AVM Raymond Collishaw, and took the opportunity to enquire about the colouring of the Triplanes in the famed 'Black Flight'. Part of his reply was as follows:

'Re the colouring of "B" flight aircraft of No 10 Naval Squadron in 1917 the aircraft were not black. At that time the Sopwith Triplane was the only Triplane on the Western Front, and therefore it was highly conspicuous. There was no real need for the usual identification markings, and as the roundels could in effect be used for bullseyes to aim at, I had the Triplanes severely darkened in pigment, with all the identification markings darkened in colour. This had the effect of decreasing the assaults made on us by surprise.

'The name "Black Flight" emerged out of the names of the aircraft—*Black Maria, Black Death, Black Prince,* etc, and the use of this name only came into being after the authors of aviation stories had set it into motion.

'Naval aircraft were doped a considerably darker tone of khaki than was customary in the RFC squadrons. I think this practice originally started because the rotary engines spread a good deal of castor oil over the wings and fuselage, and so the darkened khaki tended to mask the untidy look of the oil smudges.'

Therefore, the correct finish for the Aurora model should be very dark khaki drab on upper and side surfaces, including those metal cowling panels which appear in natural colour in most photos of Sopwith Triplanes! Clear doped undersurfaces, and all insignia above and on the sides, should be washed over with khaki and partially obscured. Wheel discs would also have been khaki, and quite probably struts also, as fitters wielding large paint brushes would have tended to slap dope on any bright surface.

John Garwood,
Wellington, New Zealand.

Mis-informed

I AM writing this in an attempt to rectify my dreadful blunder concerning the Dave Clark Five, and to prevent your beleaguerment by indignant readers. My reference to them in the September 1964 issue as a 'Liverpool faction' stems from the fact that, on this side of the Atlantic, they receive only a fraction of the publicity that the Beatles enjoy. Also, a certain misinformed Detroit disc jockey has, on more than one occasion, referred to them as being a 'Liverpool group'. Unfortunately, I considered him to be knowledgeable in this area, and thought it safe to assume likewise. My apologies to the people of London and Liverpool who may have been offended.

Since it seems to be the custom of all your letters to the Editor to include a demand or plea for certain new models in the near future, how about a Saladin armoured car in your OO/HO series or, possibly, models of Lord Nelson and T. E. Lawrence?

Dennis Staszak, Detroit, Michigan, USA.

Plea for personnel

BEING a keen model maker, and a collector of Airfix 1:72 scale aircraft and armoured vehicle kits, I recently bought an Airfix catalogue in order to decide which kit to purchase next. I found listed no less than 57 1:72 scale aircraft kits, and I know that there have been more issued since the catalogue was printed. In addition to this, there are numerous tank, gun, and allied personnel kits, all making some first-class layouts possible.

The point of all this is that, with well over 50 1:72 scale aircraft kits now produced by Airfix which, judging by the activity in the model shops in all the areas which I visit, are all selling well, there must be a demand for scale personnel to service these aircraft.

There are numerous attitudes and postures that the airfield personnel could adopt, ie, men fitting rockets or bombs, using electric starters, inserting machine gun ammunition belts, refuelling from a bowser (provided

Continued on next page

Letters to the Editor

Continued

by Airfix?), trailers for bombs or rockets, pilots climbing into cockpits or on to wings, pilots running as for a scramble. Other ideas are personnel for a control tower (already provided by Airfix), fire trucks, lorries, jeeps, anti-aircraft guns, dispatch riders, mobile control vans, and there could even be WAAF or ATC figures.

With all these suggestions which, judging by the number of requests in AIRFIX MAGAZINE are in the minds of many model makers, the latest set provided by Airfix turns out to be Robin Hood and his merry men

Surely Airfix airfield personnel and vehicles, which can fit in with so many layouts, would have a far greater sale value than a set of Lincoln Green-clad outlaws in fighting positions, with nobody to fight against.

Come along Airfix, help out the 1:72 scale fans, or do we have to endure cut fingers and broken fingernails in trying to convert OO/HO figures from the various excellent armed groups already provided by Airfix?

P. Barleggs, Winfrith, Dorset.

Fortress markings

ON page 216 of your December, 1962, issue there appeared a photograph of a B-17E 'Peggy D'. I wonder if your contributor Mr Bowyer could answer the following questions about it. To what Bomb Group did it belong? Is the design on the rear of the fuselage two bombs and a skull, and if so what colour? Was this design repeated on the wheel discs?

I am in possession of a photograph of a B-17E named 'Alabama Exterminator II', but unfortunately the serial number is not visible, and I wonder if Mr Bowyer could supply it as this aircraft seems to belong to the same Bomb Group as 'Peggy D', having two bombs and a skull on the wheel discs.

Also I have a photograph illustrating 'Fools Paradise IV', the Mustang modelled by Airfix. From the photo the colour scheme suggested by Airfix appears to be wrong. The spinner is not yellow, invasion stripes are carried, there are black identification bands around the tailplane, the upper surface of the fuselage behind the cockpit seems to be olive drab, there is a band of some dark colour around the extreme nose, and the rudder appears to be white or yellow. The plane, by the way, belongs to the 363rd FG.

Paul A. Costello, Durham.

M. J. F. Bowyer comments: '*I asked Roger Freeman, acknowledged expert on the history of the VIIIth Air Force, for some comments on your points. He writes:*

' "*Peggy D*" *and* "*Alabama Exterminator II*" *were both B-17E aircraft of the 97th Bomb Group. This was the first B-17 Group to arrive in the UK and was based at Polebrook in Northants from July to November, 1942. The insignia on the rear fuselage of these aircraft was an unofficial squadron marking derived from the unit badge. Only a few aircraft carried it.*

"*Fools Paradise IV*", *44-13309, was a P-51 of the 380th Squadron, 363rd Fighter Group, IXth Air Force. At the time the photo was taken this machine was natural finish with olive drab patches obscuring the upper portions of the AEAF stripes. Shortly after the photograph was taken the squadron began using blue painted noses as a form of identification. It is possible that 413309 wore this.*'

Five-star effort

AS an ardent reader of AIRFIX MAGAZINE from the very first issue, and a collector of all AIRFIX model aeroplanes (1:72 scale only) since the first Airfix kit of the Gladiator, I wish to express my satisfaction with the new Ju 88 kit. It was well worth waiting for and a real five-star effort.

I build two of each of most of the Airfix models—one with everything down, and the other mounted on the stand in full flying trim. I am not keen on retractable undercarriage as such, as long as they can be fixed up or down in true scale positions.

I very much wish Airfix would make a production run of their Liberator moulded in white like the Sunderland and Swordfish. This should prove extremely popular in Coastal Command colours, as per *Air Pictorial,* May 1961, page 146, depicting 53 Squadron Liberation VI, which is the Airfix B-24J without any modifications.

George M. Curmi, Malta, GC.

Pen-friends wanted

THE following readers have written to the Editor requesting pen-friends. Bruce Johnstone (13) of 207 Kings Road, Finswood, Manchester 16, Lancs, wants to correspond with someone of any age in America, Canada or Australia who is interested in aircraft, modelling and photography and who is willing to exchange photographs. Kirby J. Key (15), of 202 Maumee Street, Jonesville, Michigan 49250, USA, is looking for others seriously interested in plastic aircraft modelling, especially World War 2 planes and also some modern aircraft. Reader Key wants to communicate with a pen-friend of similar age in any country, providing he can write and read English. Interested readers are invited to establish contact direct, at the addresses given.

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VISITORS to the 1965 International Boat Show at Earls Court from January 6-16, 1965, will be able to sample, in model form, the thrills of powerboat racing. Partridge's Models Ltd, of Paddington, have been commissioned by Shell-Mex and BP Ltd to devise a model powerboat race using radio-control.

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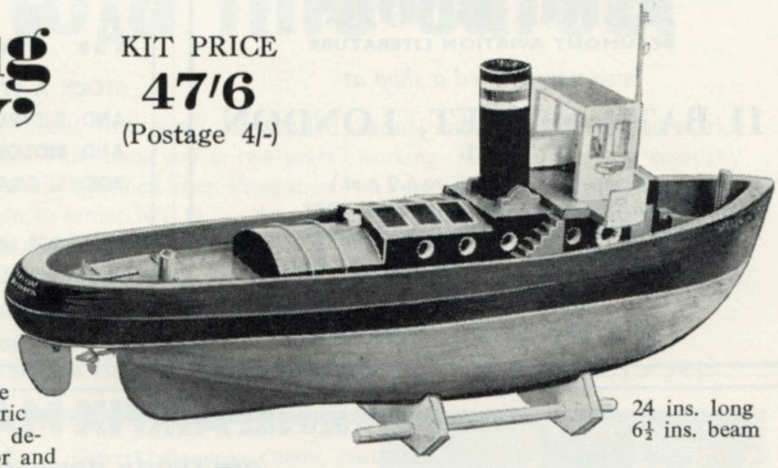

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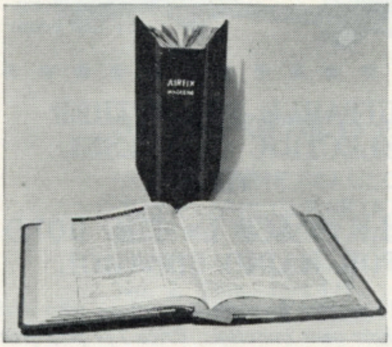

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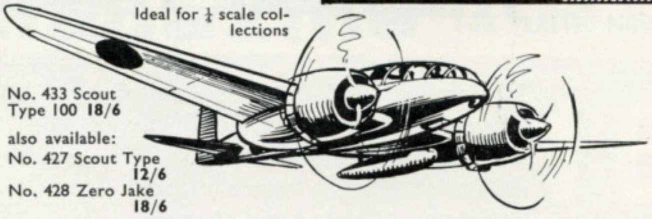

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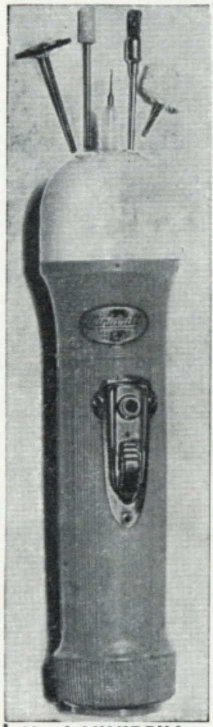

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